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RANDOMIZATION AND ALTERNATIVE TESTS

by

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Randomization and Alternative Tests

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ABSTRACT

General randomization test procedures and their applicability as practical tests of significance are discussed. Specific procedures are detailed for the two sample comparison of means and the one-way analysis of variance. Through Monte Carlo simulation, the robustness and power of these specific randomization tests are examined and compared against parametric, nonparametric, and approximate randomization test alternatives. Selected test conditions include various sample sizes, continuous and discrete sampling distributions, and various approximate randomization test sample sizes. Results of the simulation indicate that randomization and approximate randomization tests are as robust and powerful as parametric tests and more robust and powerful than comparable nonparametric tests. Furthermore, the results imply that parametric and approximate randomization tests may provide excellent alternatives to randomization tests when exact randomization tests may be infeasible.

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I. INTRODUCTION

In experimentation and data analysis two major assumptions often required for hypothesis testing and estimation are (a) random sampling, and (b) assumptions about the distributional form of the population from which the data were sampled. If one assumes random sampling from a population which is of a certain parametric form (e.g., normal) then statistical inferences can be drawn using parametric analysis (e.g.. the t test). On the other hand, if one assumes random sampling without making parametric assumptions about the underlying population, then nonparametric statistical tests can be used (e.g., the sign test). These assumptions may not be valid in many practical experimental and data analysis situations, making the associated statistical tests of questionable validity.

Randomization tests are statistical tests of significance that do not require random sampling or parametric distributional characteristics. In 1935, R. A. Fisher first demonstrated the use of randomization tests in an experiment involving "sensory discrimination" between two treatments [Ref. 1]. The experiment was described as follows:

> A lady declares that by tasting a cup of tea made with milk she can discriminate whether the milk or the tea infusion was first added to the cup . . . . Our experiment consists of mixing eight cups of tea, four in one way and

four in the other, and presenting them to the subject for judgement in a random order . . . . Her task is to divide the 8 cups into two sets of 4, agreeing, if possible, with the treatments received. [Ref. 1]

Given 70 ways of choosing a group of 4 objects from 8, Fisher argued that, since the cups were presented in a random order, each of the 70 ways could be chosen by mere chance with a probability of 1/70. He then supposed an observed outcome of 3 right and 1 wrong. Based on the limits of a null hypothesis that the subject possesses no sensory discrimination as claimed, Fisher noted that the 'observed' outcome could have occurred in 16 of the possible 70 ways and that a better result, 4 right, could have occurred in one additional way. Fisher therefore concluded that the significance of the supposed outcome was 17/70. [Ref. 1]

Since Fisher's demonstration of their practical uses, randomization tests have been applied in a variety of statistical contexts. These applications include (among others) the two sample comparison of means, analysis of variance, analysis of covariance, tests for correlation, tests for trend, and regression analysis [Ref. 2:pp. 327-334]. In general, randomization test procedures involve (a) repeatedly dividing or permuting the experimental data (and for this reason randomization tests are sometimes referred to as *permutation tests*), (b) computing a test statistic for each division or permutation, and (c) comparing the observed experimental test statistic to the

test statistics obtained from the permuted data [Ref. 3:p. 1]. Since these procedures involve repeatedly dividing or permuting the data, they typically require a significant amount of calculations for even relatively small sample sizes. Consequently, practical applications of randomization tests have met with opposition [Ref. 4:p. 89]. Furthermore, randomization tests are either neglected entirely or receive only cursory attention in many statistics textbooks.

The purpose of this thesis is to review the general conditions under which randomization tests may be employed, to illustrate why the opposition to using randomization tests may be well founded, and to identify alternatives or approximations which may be used in lieu of randomization tests. Specific randomization test procedures are examined for the case of the two sample comparison of means and one-way analysis of variance. For each, Monte Carlo simulations are used in an effort to examine (under selected conditions) the size, power, and robustness of randomization tests as compared to other tests of significance which have historically been used in these situations. In this thesis, power will be referred to as a tests ability to detect a false null hypothesis. Also, robustness will be referred to as a test's ability to correctly identify a true null hypothesis under changes in sample sizes, sampled distributions, and sampled distribution parameters.

II. PRACTICAL APPLICABILITY OF RANDOMIZATION TESTS

A. DISCUSSION

In performing randomization tests, the significance level is derived from a comparison of the calculated test statistic with the test statistics obtained from repeated permutations of the data. Therefore, these tests do not depend on parametric distributional characteristics of the observed data and are considered *distribution-free* tests. Like other tests of significance, they require certain assumptions and a priori criteria before valid statistical inferences can be made about the populations from which the experimental data were sampled. The purpose of this chapter is to discuss these assumptions and to compare them with those required for other tests of significance. We comment on the opposition to using randomization tests, followed by a look at alternatives or approximations historically used in lieu of randomization tests.

B. RANDOM VS. RANDOMIZED SAMPLES

Edgington and Strain [Ref. 4:p. 89] have argued that randomization tests are the only valid statistical tests when randomized samples have been obtained. To gain an understanding of the difference between random sampling and randomized samples, recall that a *random sample* is a "sequence of n independent and identically distributed

random variables $X_1, X_2, \ldots, X_n$." [Ref. 2:p. 62] In practice, data are drawn from a population using some formal method, such as rolling a die, drawing numbers from a table of random numbers, or calling a computer random number generator. For finite populations, random sampling theory requires that each member of the population must have been equally likely to have been chosen in the sample [Ref. 2:p. 62].

When experimental subjects are not randomly selected but are randomly assigned to treatments, then the observed experimental data represent *randomized samples*. In this case, parametric tests based on random-sampling models are not valid [Ref. 4:p. 89]. The validity of randomization tests under the assumption of randomized samples can be illustrated by examining the general procedures. As previously described, the level of significance obtained in randomization tests is found by comparing the observed test statistic to the test statistics obtained from the permuted data. For example, in Fisher's experiment, the test statistic was the number of correct responses. The 'observed test statistic' (3 right) was the test statistic derived from the supposed experimental outcome, 3 right and 1 wrong. This observed test statistic was compared against all possible ways in which correct responses could have occurred - 0 right in 1 way, 1 right in 16 ways, 2 right in 36 ways, 3 right in 16 ways, and 4 right in 1 way. The test

statistics derived from the permuted data constitute a discrete distribution (sometimes called the *reference* or *randomization distribution* [Ref. 5:pp. 94-97]) from which the significance level may be obtained. The permuted data constitute a discrete sample space of which the experimental outcome is a member. If subjects were randomly assigned to treatments, then the observed experimental outcome is equally likely to have been any member of this sample space. Thus, the requirements of random sampling theory are indirectly satisfied and valid statistical inferences can be made.

In many practical experimental situations it may be impossible to select random samples from a given population about which statistical inferences are to be made. In this case randomized samples may be a viable alternative and randomization tests may be applied. For example, consider an experiment in which it is desired to test whether the average course grade given by Professor A is greater than the average course grade given by Professor B. Theoretically, if random samples are to be taken, then the populations from which the samples must be randomly selected are all the students who *have* taken and completed the courses together with all those students who *will* take and complete the two professors' courses. Random sampling from these populations is infeasible and a statistical test which assumes random samples may be invalid. However, the method

of randomized samples could be used. In this case, a group of students could be selected (not necessarily at random) and randomly assigned to take either of the two courses. The observations obtained from the experiment represent a randomized sample and a randomization test could be used to make statistical inferences about the average course grades.

C. A PRIORI CRITERIA

As in other tests of significance, when performing randomization tests the hypotheses and a test statistic applicable to the hypotheses must be chosen a priori. Furthermore, if a decision to either accept (or fail to reject) or reject the null hypothesis is to be made, then the commonly used Neyman-Pearson procedure for hypothesis testing (involving Type I and II error rates) requires selection a priori of the significance level (e.g., .05). [Ref. 6]

D. OBJECTION TO USING RANDOMIZATION TESTS

The major objection to using randomization tests in their early development was the number of calculations required to perform them [Ref. 4:p. 89]. Randomization test procedures require that the observed data be repeatedly divided or permuted, and that a test statistic be computed for each division or permutation. Then clearly, the number of calculations required in performing a randomization test is directly proportional to the number of divisions or

permutations. Since permutations (actually combinations) are involved, then the number of calculations required to perform a randomization test increases very rapidly for even small sample sizes.

For example, consider the 'average course grade' experiment above. An appropriate test statistic for the comparison of two treatment means is the arithmetic difference in means. Suppose that 10 students are selected (again, not necessarily at random) and randomly assigned to the two professors' classes. Assume further that 5 students are assigned to Professor A's class and 5 to Professor B's class, and that at the conclusion of the class period, a set of grades is observed. From the observed grades, a difference in means is computed. This difference serves as the observed test statistic. In this experiment (as in Fisher's experiment), determining the significance of the observed test statistic requires determining test statistics for each way in which the observed grades could have occurred. This involves the number of ways in which 10 objects can be assigned 5 at a time which is 10!/5!5! or 252 ways. For each of these 252 ways, a test statistic (the difference in means) is computed. Although this may not seem to be a significant number of computations, consider cases where the sample sizes increase. For two groups of 10 students each, the computations become 20!/10!10! which is 184,756. For two groups of 20 each, the result is approximately 1.38×10^{11} difference in means computations.

As the above numerical examples illustrate, the number of combinations and the subsequent calculations which may be required in performing randomization tests increases quite rapidly with increases in sample size. With today's high speed computers, the above example calculations seem less formidable. However, compared with other parametric and nonparametric tests, the computer time and costs required to perform randomization tests continue to have some impact on their use in practical applications. For example, for even an extremely fast computer, the last result obtained above (1.38×10^{11}) could well represent a substantial amount of computer time and costs. Therefore, the objection to using randomization tests for even moderately sized samples remains, and, depending on the specific circumstances, the use of other tests of significance may well be practical alternatives as approximations to randomization tests. One such alternative suggested by Dwass [Ref. 7] is the use of *approximate randomization tests.*

E. APPROXIMATE RANDOMIZATION TESTS

Approximate randomization tests are randomization tests in which the significance level is determined from a subset of the test statistics making up the reference distribution. That is, randomly selected permutations of the data are obtained and test statistics are computed for these permutations only. The test statistics which result from these randomly selected permutations make up an *approximate*

randomization distribution from which a level of significance can be obtained. For example, instead of computing all 1.38×10^{11} difference in means above, a considerably smaller number of randomly selected permutations, say 1000, could be obtained and difference in means computations made for these randomly selected permutations only. Then, a significance level could be determined using these 1000 test statistics rather than all 1.38×10^{11} statistics.

Since the significance level obtained by this method is based on a subset of the reference distribution, it is an approximation to the significance level which could be obtained using the entire reference distribution. Edgington [Ref. 8] showed that for a random sample of size 1000 (an arbitrary choice but probably based on research by Dwass [Ref. 7]), an approximate randomization test would result in the assignment of a significance level of no greater than .066 with probability .95 when the exact randomization test would result in a .05 significance level. Furthermore, research by Edgington and Strain [Ref. 4] demonstrated that considerable savings in computer time and costs could be realized using a 1000 sample approximation rather than the exact randomization test. The conclusions reached by these two studies indicate that although the significance level obtained by this alternative method is still an approximation to the significance level that could be

obtained by using the entire randomization distribution. it is a viable alternative to the randomization test when the randomization test may be impractical due to excessive computer time and costs.

III. TWO SAMPLE COMPARISON OF MEANS

A. DISCUSSION

The purpose of this chapter is to detail specific randomization test procedures applicable to the two sample comparison of means. Included are a discussion of the method of permuting the data and appropriate test statistics which can be used. The method of comparing the observed test statistic to the test statistics obtained from the permuted data to arrive at a level of significance is also discussed. Additionally, specific alternatives are identified and the specific simulation methodology used in examining significance levels obtained from the randomization test and alternative tests is described. Lastly, an analysis of the results of the simulation is included.

B. SPECIFIC RANDOMIZATION TEST PROCEDURES

Specific procedures applicable to randomization tests for the two sample comparison of means require:

1. A specific method of permuting the data.
2. A selection of an appropriate test statistic.
3. A specific method of comparing the observed test statistic with the test statistics obtained from the permuted data.

Each of these specific procedures is detailed below along with an example.

1. Permuting the Data

In performing randomization tests for the two sample comparison of means, the observed data are permuted across each treatment so that all possible ways in which the data could have resulted are found. For example, suppose that an experiment is conducted in which there are two treatments (X and Y) and two experimental outcomes or observations per treatment ($x_1=1$, $x_2=4$, $y_1=2$, $y_2=3$). The observed data are permuted across each treatment as given in Table 1.

TABLE 1

TWO SAMPLE EXAMPLE DATA PERMUTATIONS

Permutation	Sample X	Sample Y
1	1 4	2 3
2	1 2	4 3
3	1 3	4 2
4	4 2	1 3
5	4 3	1 2
6	2 3	1 4

These permutations represent all possible ways in which the data could have been observed. Note that the observed statistic is the first permutation. In general, the number of permutations (actually combinations) required by this method is given by:

$$\frac{(n1+n2)!}{n1!n2!} \qquad \text{(Eqn. 1)}$$

A previous example illustrated the computational consequences of Eqn. 1 for randomization tests when n_1 and n_2 are even moderately large.

2. <u>Selecting an Appropriate Test Statistic</u>

Unlike many other comparable significance tests, several appropriate test statistics are available for randomization tests of the two sample comparison of means. Furthermore, for a given hypothesis test, certain test statistics are referred to as *equivalent test statistics* because they are functions of one another [Ref. 3:p. 44]. For a one-tailed hypothesis test of the two sample comparison of means, examples of equivalent test statistics are (a) the sum of the observations of the treatment with the suspected larger mean, (b) the arithmetic difference in the means, and (c) the t statistic. Use of each of these equivalent test statistics results in the same randomization test. For example, Table 2 is an extension of Table 1 and lists each of the equivalent test statistics for each of the data permutations from the previous example. For these test statistics, an ordering of the values corresponds to an identical ordering of each of the other test statistics. Thus, any comparisons made between the observed test statistic to the test statistics obtained from the permuted data would result in the same significance value. Therefore, for the one-tailed hypothesis test given in this example, each of these test statistics would be considered appropriate.

TABLE 2

TWO SAMPLE EXAMPLE DATA TEST STATISTICS

Permutation	Sample X	Sample Y	Σx	$\bar{X}-\bar{Y}$	t
1	1 4	2 3	5	0.0	0.0
2	1 2	4 3	3	-2.0	-2.8
3	1 3	4 2	4	-1.0	-0.7
4	4 2	1 3	6	1.0	0.7
5	4 3	1 2	7	2.0	2.8
6	2 3	1 4	5	0.0	0.0

For the two-tailed hypothesis test, equivalent test statistics are (a) the absolute value of the arithmetic difference in means, and (b) the absolute value of the t test statistic [Ref. 3:pp. 43-44].

Although equivalent test statistics will provide the same significance level, computational savings can be made by using the statistic which requires the least amount of calculations. In the case of the one-tailed test, use of the sum of the observations of the treatment with the suspected larger mean requires minimal calculations. For the two-tailed test, the absolute value of the arithmetic difference in means could be used.

3. Method of Comparison

Using the test statistics given above, for a one-tailed alternate hypothesis which states that the mean of sample X is greater than the mean of sample Y, the significance level is obtained by numerically determining

the proportion of test statistics obtained from the permuted data which are greater than or equal to the observed statistic[1]. Likewise, when the alternate hypothesis states that the mean of sample X is less than the mean of sample Y, then the significance level is the proportion of test statistics less than the observed statistic. For the two-tailed equivalent test statistics given above, the significance level can be determined from the proportion of statistics greater than or equal to the observed statistic.

The following illustrates this method of comparison. Given the permutations of the data in Table 1 and the test statistics in Table 2, suppose further that it is desired to conduct a one-tailed hypothesis test. Let the null hypothesis state that the mean of sample X is less than or equal to the mean of sample Y and the alternate hypothesis state that the mean of sample X is greater than the mean of sample Y. For these hypotheses, the comparison used in determining the randomization test significance level is the proportion of the test statistics obtained from all permutations of the data (including the observed data) which are greater than or equal to the observed test statistic. As given in Table 2, this proportion is 4/6 for each of the

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[1] In an example given by Box, Hunter, and Hunter [Ref. 5:pp. 94-96], the significance level was incorrectly (or inadvertently) reported as the proportion of those statistics *greater than* the observed statistic as opposed to the more correct statement *greater than or equal to*.

test statistics. Therefore, the resulting randomization test significance level is 4/6 or approximately .67.

C. SIMULATION AND ANALYSIS OF RESULTS

To compare the robustness and power of the two sample comparison of means randomization test against alternative tests, Monte Carlo simulation was used. The simulation consisted of generating random samples under selected conditions and determining each test's significance level based on the generated samples. For each condition, 50 iterations were used in developing averages and variances of the significance levels. Conditions under which samples were generated included changes in (a) sample sizes, and (b) sampled distributions. Significance levels were determined based on the hypotheses H_0: the mean of treatment 1 is less than or equal to the mean of treatment 2, and H_1: the mean of treatment 1 is greater than the mean of treatment 2. The alternative tests incorporated in the simulation included the parametric t test [Ref. 5:pp. 95-96], the nonparametric Mann-Whitney test [Ref. 2:pp. 215-223], and the approximate randomization test. For the approximate randomization test, sampling *with replacement* was accomplished. In addition to the robustness and power of the randomization test, simulation was used in examining the performance of the approximate randomization test over changes in the sample size of the approximate randomization distribution. Specific conditions under which each portion of the

simulation was performed together with an analysis of the simulation results follow.

1. Changes in Sample Sizes

To compare the performance of each of the significance tests for changes in sample sizes, the sample sizes, n_1 and n_2, were varied over (n_1,n_2) = (2,1), (2,2), (3,1), (3,2), ... , (7,4), (7,5), (7,6), (7,7). For each case, each sample was formed from individually generated N(0,1) random deviates. For the approximate randomization test, the sample size of the approximate randomization distribution was held constant at 1000. The averages and variances of the resulting significance levels appear in Appendix A. An analysis of the significance levels obtained on each iteration of the simulation as well as the above mentioned averages and variances follows.

Since the above cases were performed for a true null hypothesis, we expected the distribution of the significance levels to be consistent with uniformly distributed data. That is, if random samples were generated under a true null hypothesis, then significance levels calculated from these samples should exhibit a U(0,1) distributional form. As shown in Figure 1, the averages and variances obtained for each case were consistent with this expectation. Exceptions occurred for the extremely small sample sizes as might be anticipated. In this figure as well as in later figures, 'R' represents the significance levels obtained from the

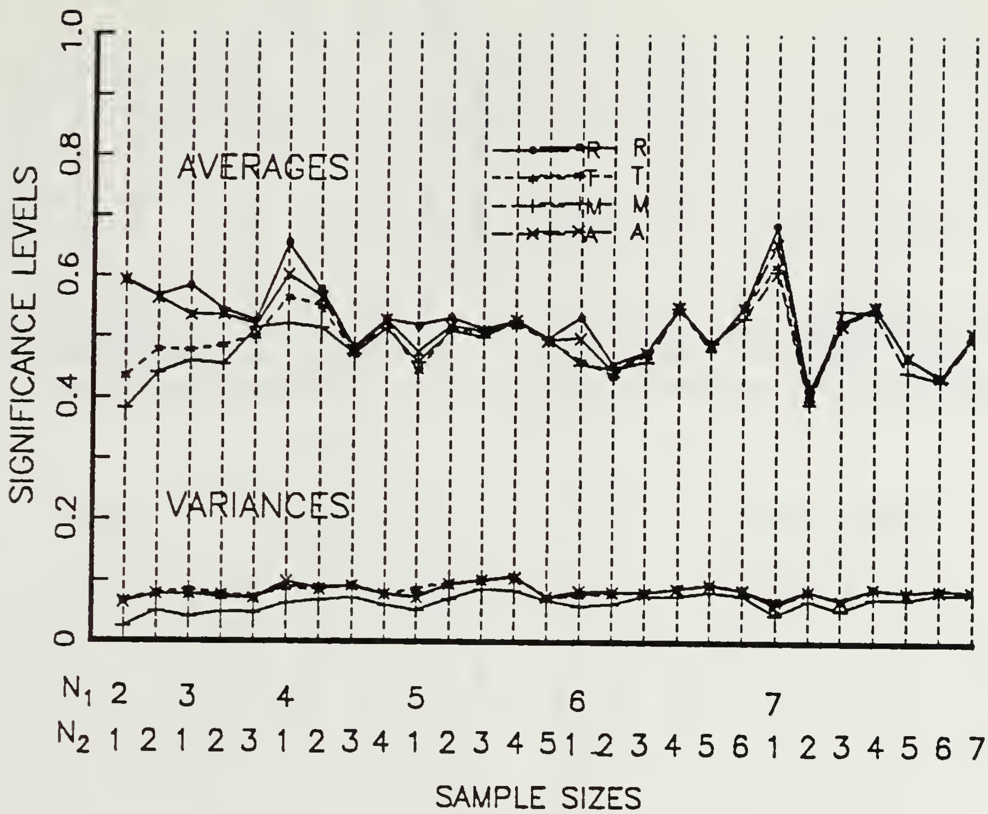


Figure 1. Two Sample Changes in Sample Sizes

randomization test, 'T' from the t test, 'M' from the Mann-Whitney test, and 'A' from the approximate randomization test. Overall, this figure illustrates little significant differences in the values obtained except as noted above.

An examination of the histograms for each condition under which the null hypothesis was true also showed distributions of the significance levels as expected. As an example, Figure 2 gives histograms of the significance

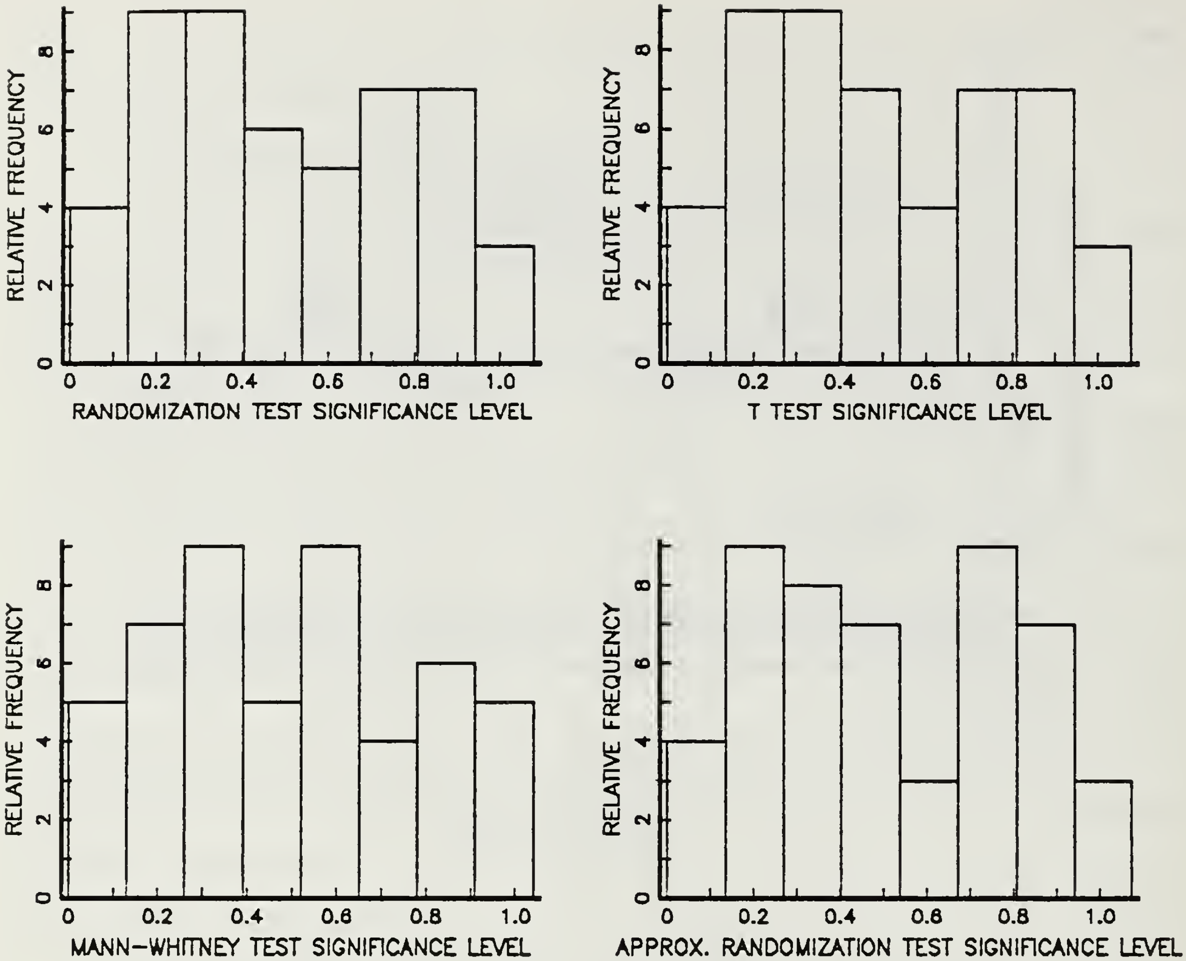


Figure 2. Two Sample Histograms for N(0,1) Samples

levels obtained for each of the two sample comparison of means tests for the case $(n_1,n_2) = (7,7)$ and N(0,1) random samples. For the hypothesis that these significance levels are indicative of U(0,1) distributions, Kolmogorov-Smirnov uniform goodness of fit test significance levels are shown in Table 3. The values in Table 3 do not indicate a disagreement with expected results.

TABLE 3

TWO SAMPLE UNIFORM GOODNESS OF FIT TESTS

Test	Kolmogorov-Smirnov Significance
randomization	0.84
t test	0.86
Mann-Whitney	0.70
approximate randomization	0.86

In addition to their overall distributional form, the significance levels were compared on an iteration-by-iteration basis. The purpose of this was to compare the marginal performance of each test, that is, to compare the performance of each test for each set of samples. Figure 3 shows the significance levels obtained over 50 iterations for the case $(n_1,n_2) = (7,7)$ and N(0,1) random samples and is typical of the others examined. The significance of this plot is the proximity of each of the significance levels. Only the nonparametric test appears to vary marginally from the other tests and this was found to be true in all runs.

2. Changes in Sampled Distributions

To compare each tests' performance under changes of sampled distributions, the sampled distributions and the distribution parameters were varied for the sample sizes $(n_1,n_2) = (7,5)$, $(7,6)$, $(7,7)$. Continuous distributions from which samples were generated included the normal,

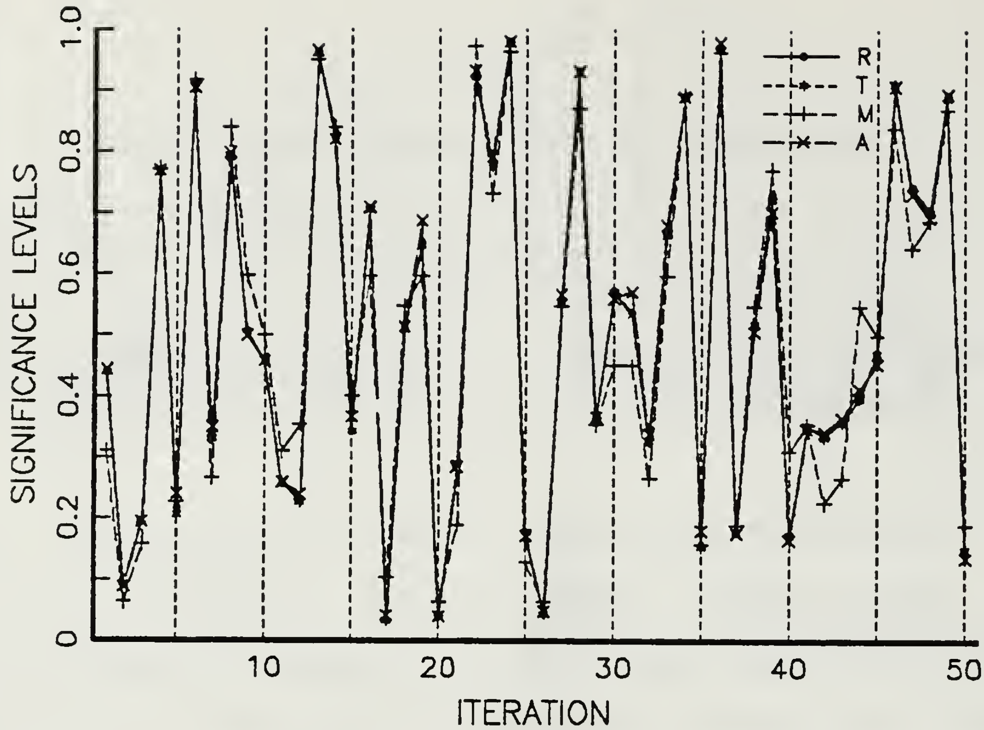


Figure 3. Two Sample Significance Levels by Iteration

exponential, uniform, gamma, weibull, beta, and chi-square distributions. Discrete distributions included poisson, binomial, and geometric distributions. Once again the sample size of the approximate randomization distribution was held constant at 1000. The averages and variances of the significance levels obtained from this series of runs appear in Appendix B.

Figure 4 shows the average significance levels obtained for the three sample sizes under changes in the mean and variance of random deviates from a normal distribution when H_o was true. Again there is little significant difference in the average significance levels.

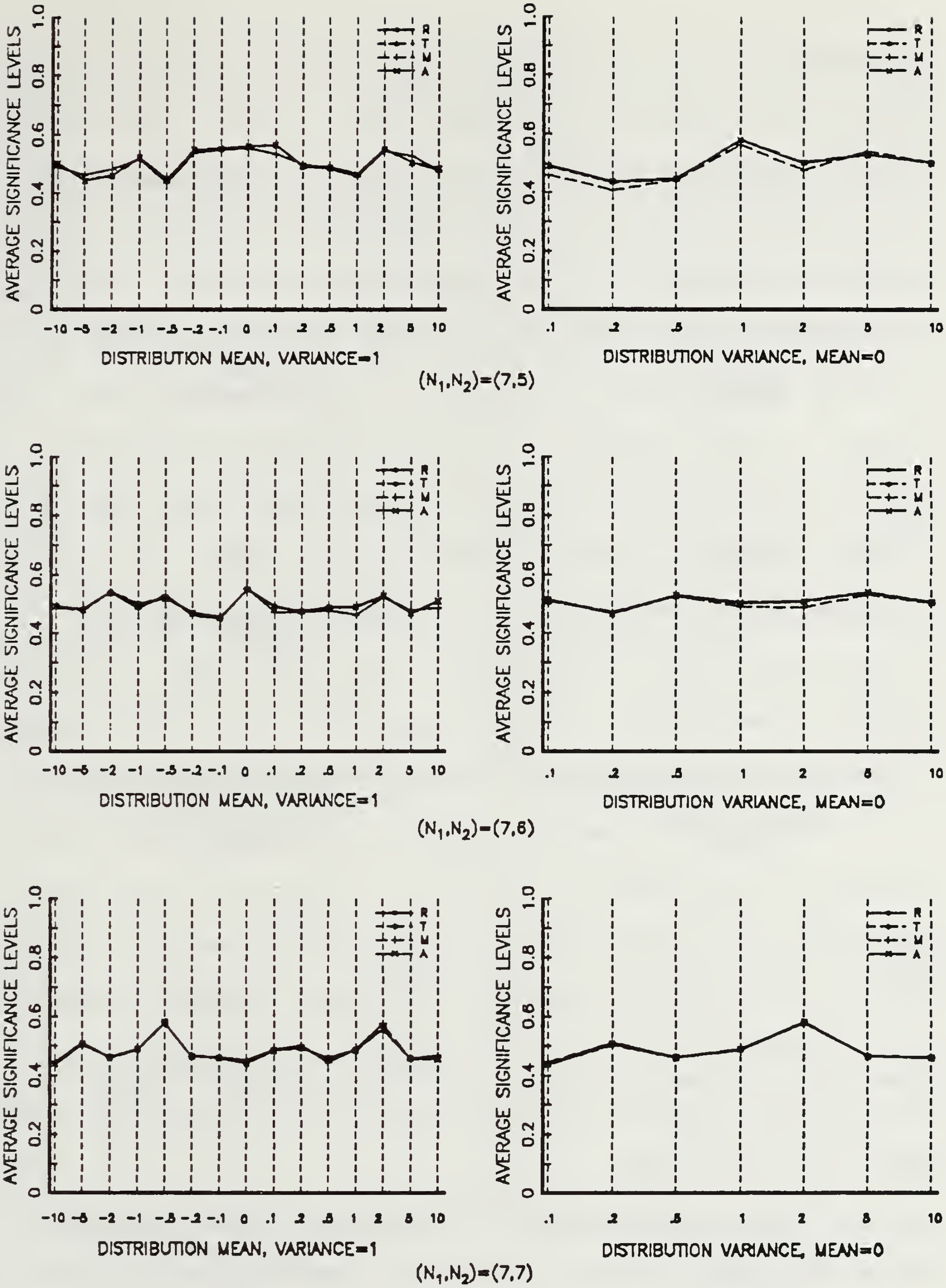


Figure 4. Two Sample Concurrent Changes in Normal Distributions

Consequently, it is difficult to distinguish from these plots (as in many of the plots to follow) the different values obtained for each test. Similar plots were obtained for all the continuous distributions examined. Figure 5 shows these plots for the cases $(n_1,n_2) = (7,7)$. Note again the variation from the other significance levels in the averages and variances obtained by the Mann-Whitney test. Figure 5 also shows little significant difference in the averages and variances obtained from the randomization test, t test, and approximate randomization test. Furthermore, although this series of runs included cases for $(n_1,n_2) =$ (7,5), (7,6), and (7,7), plots for (7,5) and (7,6) were nearly identical to those obtained for (7,7) and contained no additional information. Therefore, they are not shown.

To examine significance levels obtained under a false null hypothesis, a series of runs was conducted in which the distribution from which sample 1 was obtained was varied while the distribution from which sample 2 was formed was held constant. This examination included cases for the three sample sizes noted above given random samples from the above distributions.

Figure 6 shows the significance levels obtained for the three sample sizes when the two samples were generated from normal distributions. In these cases, the means and variances of sample 1's distribution were varied while sample 2 consisted of N(0,1) random deviates. Indicative of

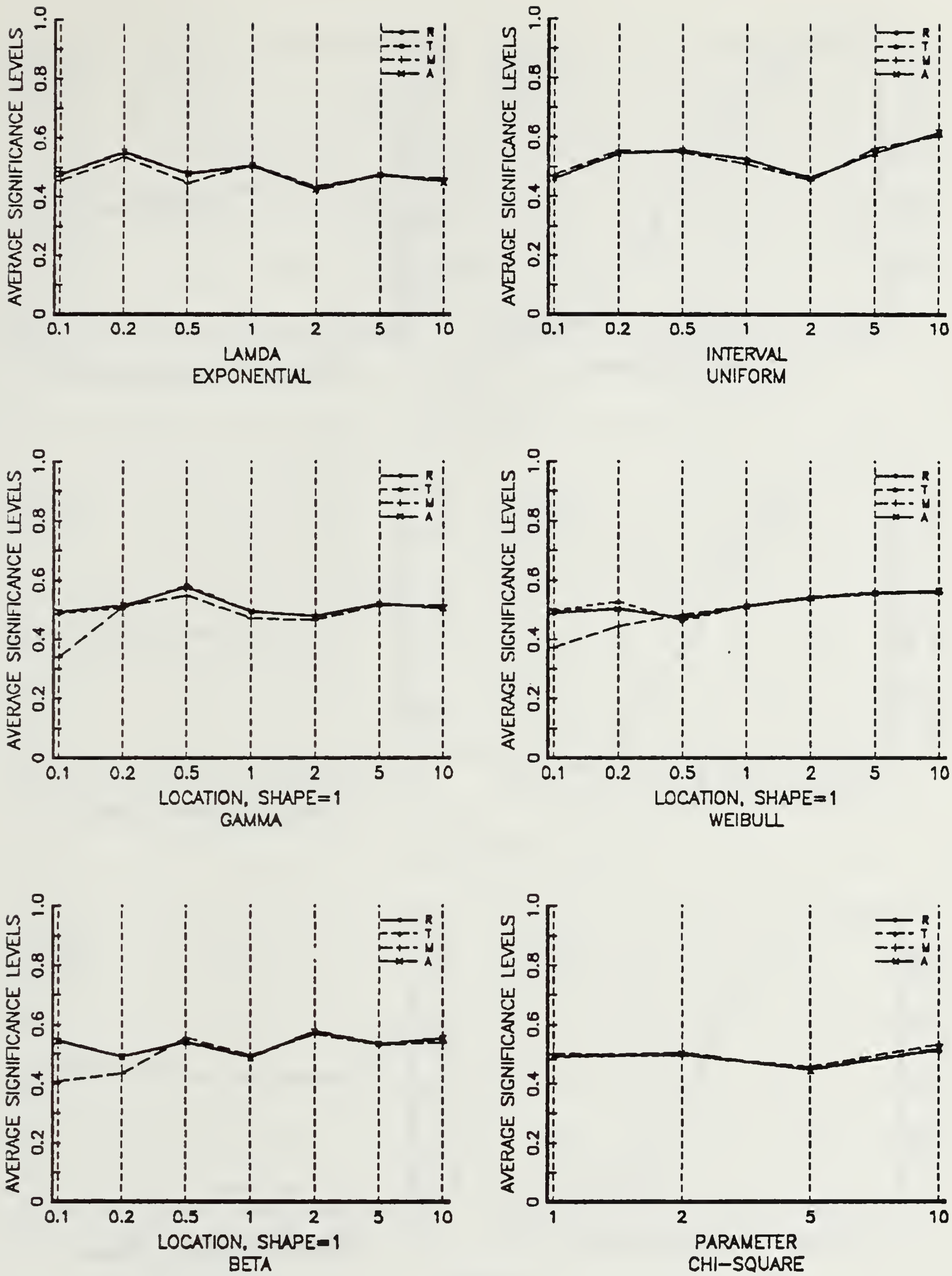


Figure 5. Two Sample Concurrent Changes in Continuous Distributions

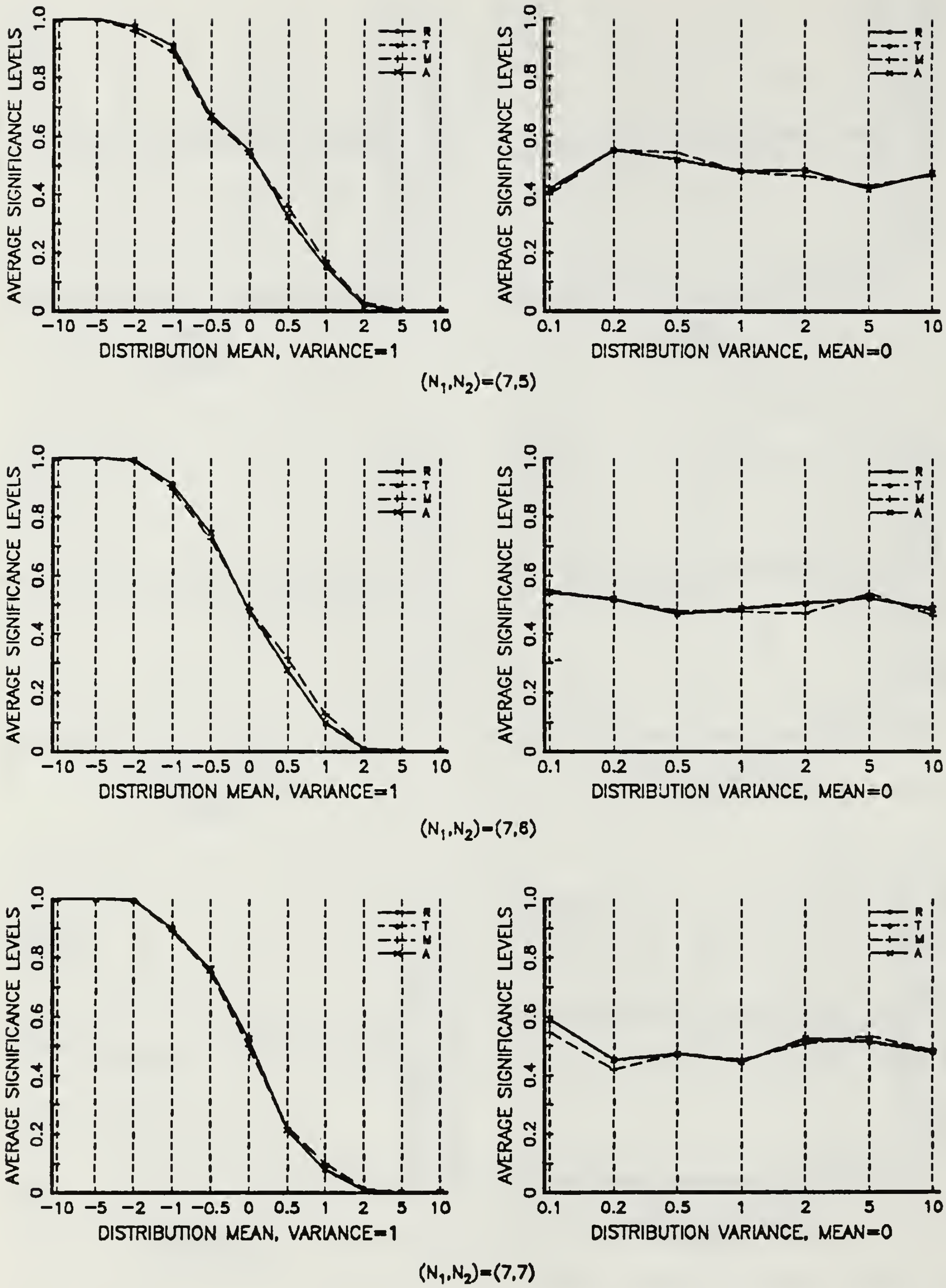


Figure 6. Two Sample Normal Distributional Changes

power. Figure 6 demonstrates little difference in each test's ability to detect a false null hypothesis. Figure 6 also illustrates that the tests are uneffected by changes in variance and further illustrates the nearly identical ability of each test to detect a true null hypothesis. Additionally, Figure 6 demonstrates that under changes in distributions, the averages and variances of the significance levels were not significantly different for equal or unequal sample sizes.

Aside from normal deviates, the significance levels obtained for samples from the other continuous distributions are shown in Figure 7. The plots shown are for the cases $(n_1,n_2) = (7,7)$ and are nearly identical to those obtained for the other two sample sizes. The sample distribution of sample 2 was held fixed as Uniform(0,1), Gamma(1,1), Weibull(1,1), Beta(1,1), and Chi-square(1) for each of the respective distributional changes. Furthermore, Figure 7 shows only changes in the location parameter of the gamma, weibull, and beta distributions. Changes in the shape parameters of these distributions resulted in plots similar to those obtained when the variance of the normal distribution was varied and are not shown.

Figure 7 further demonstrates the robustness and power of the randomization test compared to the other tests and shows that for nearly all cases, the results are almost identical. However, as also shown in Figure 6, the

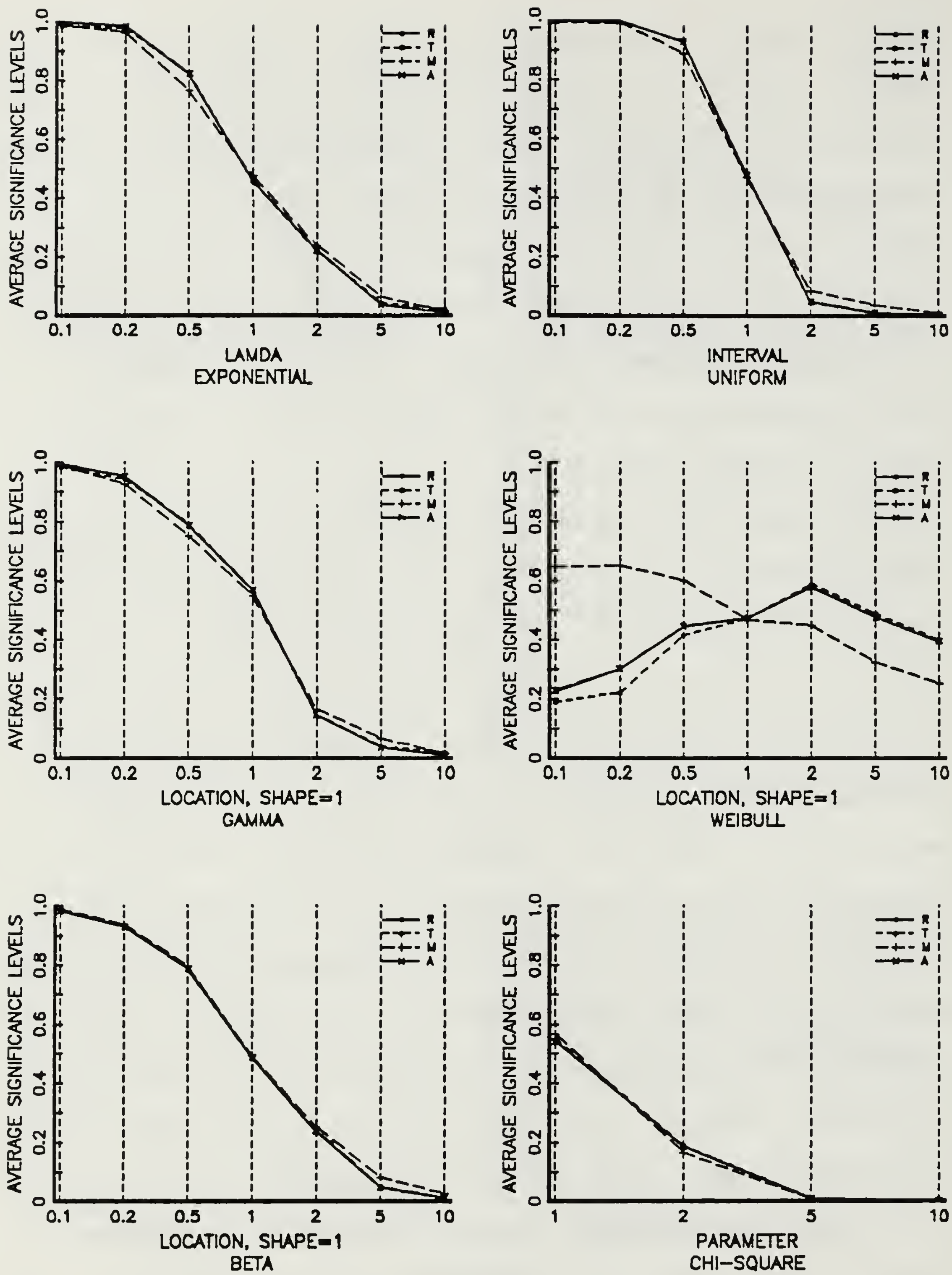


Figure 7. Two Sample Continuous Distributional Changes

Mann-Whitney test does not appear to be as robust nor as powerful as the other tests. This is indicated by the consistently smaller values when H_0 was true and the consistently larger values when H_0 was false. Also, an interesting phenomenon occurred when the sampled distribution was of the weibull form. In this case, as opposed to the other cases examined, the Mann-Whitney test differed consideralbly from the other tests. Furthermore, the randomization, t, and approximate randomization tests were inefficient in identifying both a true null hypothesis for small location parameters and a false null hypothesis for larger parameters. No explanation could be found for this.

For the discrete distributions, larger differences in average significance levels were observed. Figure 8 displays the average values obtained for samples from binomial distributions for the cases $(n_1,n_2) = (7,7)$. The figure shows the cases where the distribution parameters were varied concurrently for both samples (top and bottom left) and also when sample 1's distribution was varied while sample 2 was held fixed at Binomial(50,.5) (top and bottom right). As shown, the Mann-Whitney test significance levels continue to vary from the other tests' significance levels.

For the cases $(n_1,n_2) = (7,7)$, Figure 9 shows the average significance levels obtained when samples were

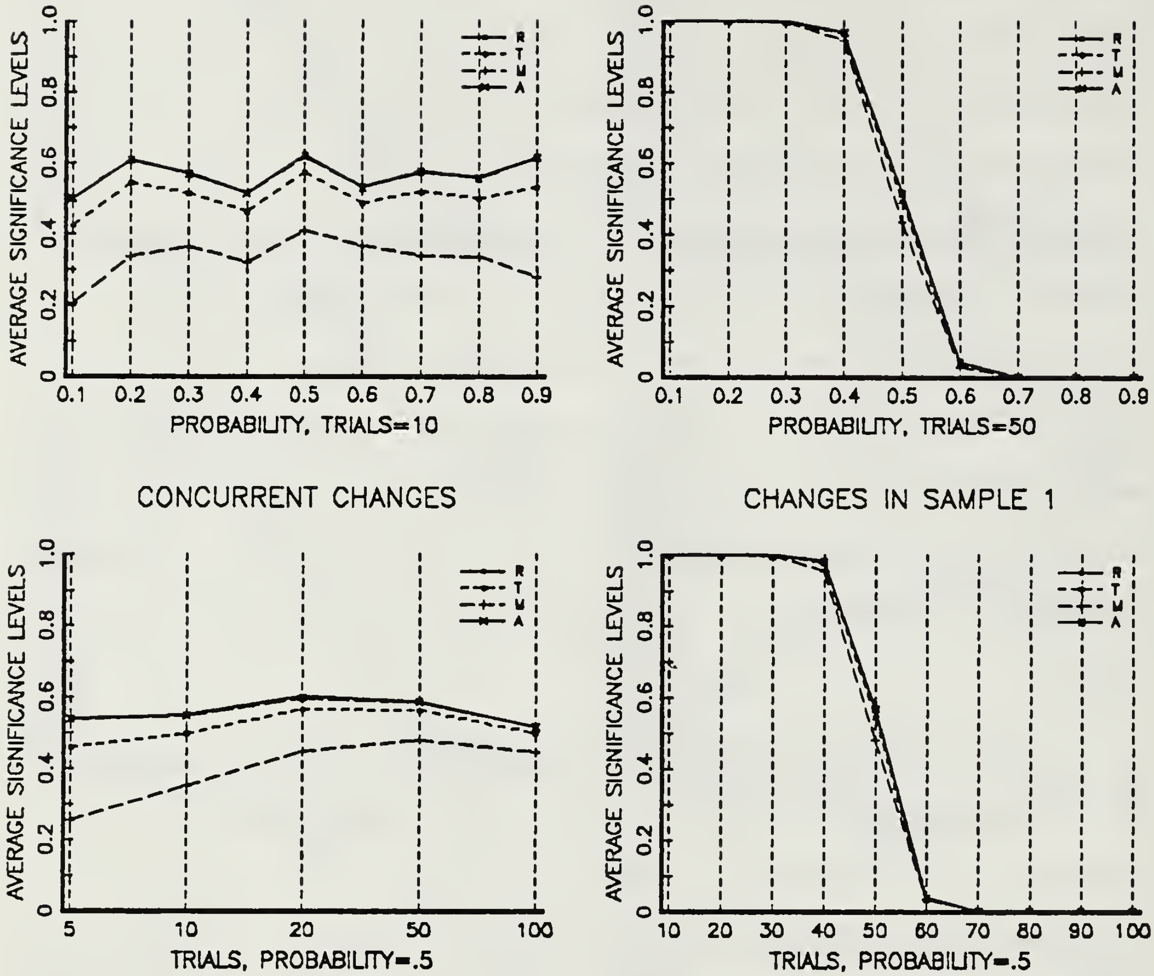


Figure 8. Two Sample Binomial Distributional Changes

comprised of poisson and geometric random deviates. Concurrent variations in the two sampled distributions appear in the top and bottom left. The top right plot shows significance levels when sample 2's distribution was fixed at Poisson(1) and sample 1's distribution was varied. The bottom right plot shows average significance levels when sample 2's distribution was fixed at Geometric(.5). Again,

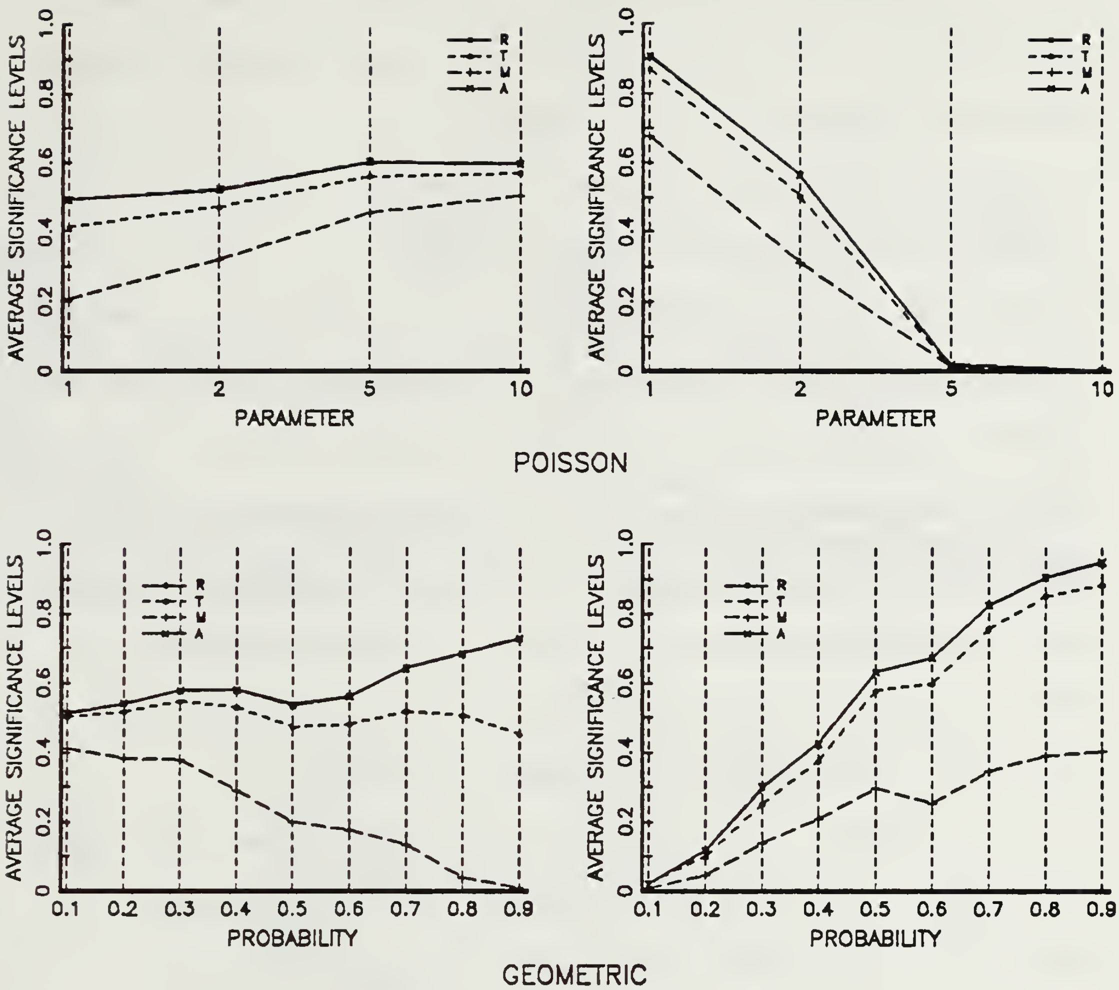


Figure 9. Two Sample Poisson and Geometric Distributional Changes

the Mann-Whitney average significance levels differ significantly from the other tests. Note, however, that the randomization and approximate randomization tests average significance values are consistently larger than those obtained via the t test.

C. Changes in Approximate Randomization Sample Size

In the third series of runs, it was desired to examine the performance of the approximate randomization test with changes in the sample size of the approximate randomization distribution. Therefore, the third series of runs involved changes in the size, β , of the approximate ramdomization distribution over the values 200, 300, . . . , 1900, 2000. These changes in β were performed for the sample sizes (n_1, n_2) = (7,7), (8,7), (9,7) composed of N(0,1) random deviates. The three different sample sizes were chosen so that the size of the reference distribution was larger than the approximate randomization sample size. The averages and variances of the significance levels obtained from these runs appear in Appendix C.

Figure 10 contains plots of the averages and variances of the significance levels obtained in the simulation for the three sample sizes. Figure 10 shows there is not much difference between the averages and variances of the significant levels for the selected changes in β.

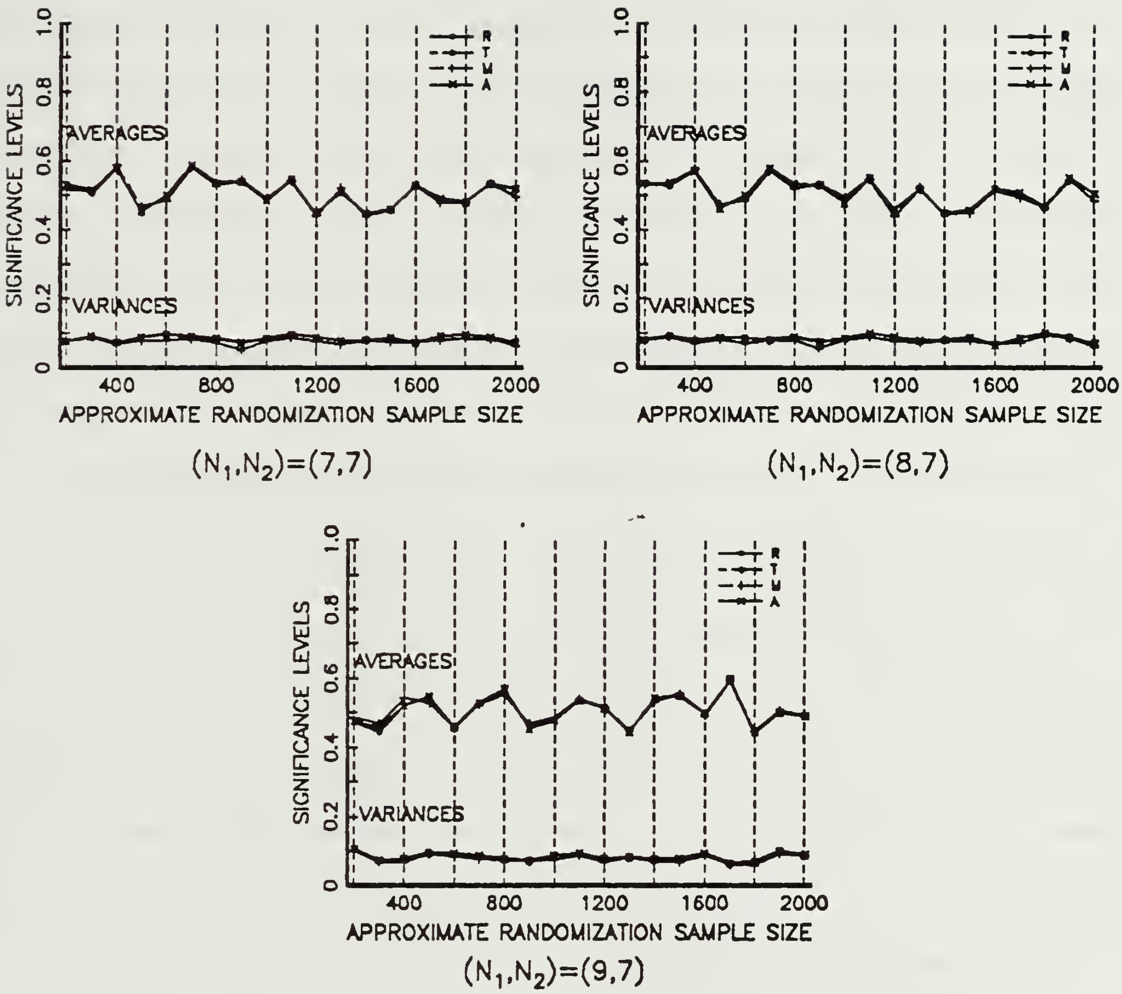


Figure 10. Two Sample Changes in Approximate Randomization Sample Size

IV. ONE-WAY ANALYSIS OF VARIANCE

A. DISCUSSION

The purpose of this chapter is to detail specific randomization test procedures applicable to the one-way analysis of variance. In conjunction with this, alternative tests are identified. Additionally, this chapter includes the specific simulation methodology used in examining significance levels obtained from each of these tests under specific test conditions. Included in the discussions of the methodology are analyses of the simulation results.

B. SPECIFIC RANDOMIZATION TEST PROCEDURES

The procedural requirements applicable to randomization tests for the one-way analysis of variance are identical to those of the two sample comparison of means. Each of these specific requirements is detailed below followed by an example.

1. Permuting the Data

In performing randomization tests for the one-way analysis of variance, the observed data are permuted across each treatment as in the two sample comparison of means. However, in general, the number of required permutations (or combinations) is given by:

$$\frac{(n_1+n_2+...+n_k)!}{n_1!n_2!...n_k!} = \frac{n!}{n_1!n_2!...n_k!} \qquad \text{(Eqn. 2)}$$

In terms of randomization test computations, Eqn. 2 shows that the number of required calculations can be quite large. For example, for two sample sizes of size 5 each, the number of permutations given by Eqn. 1 and 2 is 252. For three samples of size 5 each, Eqn. 2 gives $(5+5+5)!/5!5!5! = 756{,}756$ permutations and for four samples of size 5 each, the number of permutations given by Eqn. 2 is approximately 1.17×10^{10}. Therefore, for even small sample sizes, the computational consequences of using randomization tests for the analysis of variance are discouraging.

2. Selecting an Appropriate Test Statistic

In the one-way analysis of variance for testing H_0: the means of the treatments are equal, against H_1: at least two of the means are not equal, an appropriate test statistic is the F statistic. However, for the randomization test, an equivalent statistic which yields the same randomization test significance level is the value $\Sigma(T_i^2/n_i)$ [Ref. 3:pp. 62-63]. Here, T_i is the sum of the observations in treatment i and n_i is the number of observations in treatment i.

3. Method of Comparison

As given by the hypotheses for the analysis of variance, the significance level for these randomization tests is the proportion of test statistics derived from the permuted data which are greater than or equal to the observed statistic.

4. <u>One-Way Analysis of Variance Example</u>

The following example illustrates equivalent test statistics and the method of comparison for randomization tests of the one-way analysis of variance. To begin, consider the example given in the previous chapter detailing two sample comparison of means randomization tests. A typical analysis of variance table for the data given in that example is shown in Table 4. The permutations of the data and the two equivalent test statistics for each permutation are given in Table 5.

TABLE 4

EXAMPLE DATA ANOVA TABLE

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F
Between Treatments	0.0	1	0.0	0.0
Within Treatments	5.0	2	2.5	
Total about the Grand Average	5.0	3		

As given in Table 5, the test statistic obtained from the observed experimental data is 0.0. Note that Table 5 also shows that for each test statistic, the proportion of the statistics obtained from the permutations of the data which are greater than or equal to the observed test statistic is 6/6. Therefore, the resulting randomization

TABLE 5

ANOVA EXAMPLE DATA TEST STATISTICS

Permutation	Sample X	Sample Y	F	$\Sigma(T_i^2/n_i)$
1	1 4	2 3	0.0	25.0
2	1 2	4 3	8.0	29.0
3	1 3	4 2	0.5	26.0
4	4 2	1 3	0.5	26.0
5	4 3	1 2	8.0	29.0
6	2 3	1 4	0.0	25.0

test significance level is 6/6 or 1.0. This is the same value which would have resulted if a two-tailed hypothesis would have been used in the two sample comparison of means. This is not surprising since the square of a t distributed random variable is F distributed.

C. SIMULATION AND ANALYSIS OF RESULTS

As in the two sample comparison of means, Monte Carlo simulation was used to compare the robustness and power of the randomization test against alternative tests. In this case, alternative tests included the parametric F test [Ref. 5:pp. 187-197], the nonparametric Kruskal-Wallis test [Ref. 2:pp. 229-237], and the approximate randomization test. Also as in the two sample comparison of means, conditions were selected for changes in (a) sample sizes, (b) sampled distributions, and (c) the sample size of the approximate randomization distribution. Additionally, the simulation incorporated sampling with replacement in developing the approximate randomization distribution.

1. Changes in Sample Sizes

To compare the effects of changes in sample sizes, the simulation was conducted for N(0,1) random samples over (n_1,n_2,n_3) = (2,2,2), (3,3,3), (4,4,4), (4,4,3), (4,4,2), (4,3,3), and (4,3,2). The averages and variances of the significance levels obtained for each test are given in Appendix D. Figure 11 is a plot of these values. Again, no significant differences between test results could be determined.

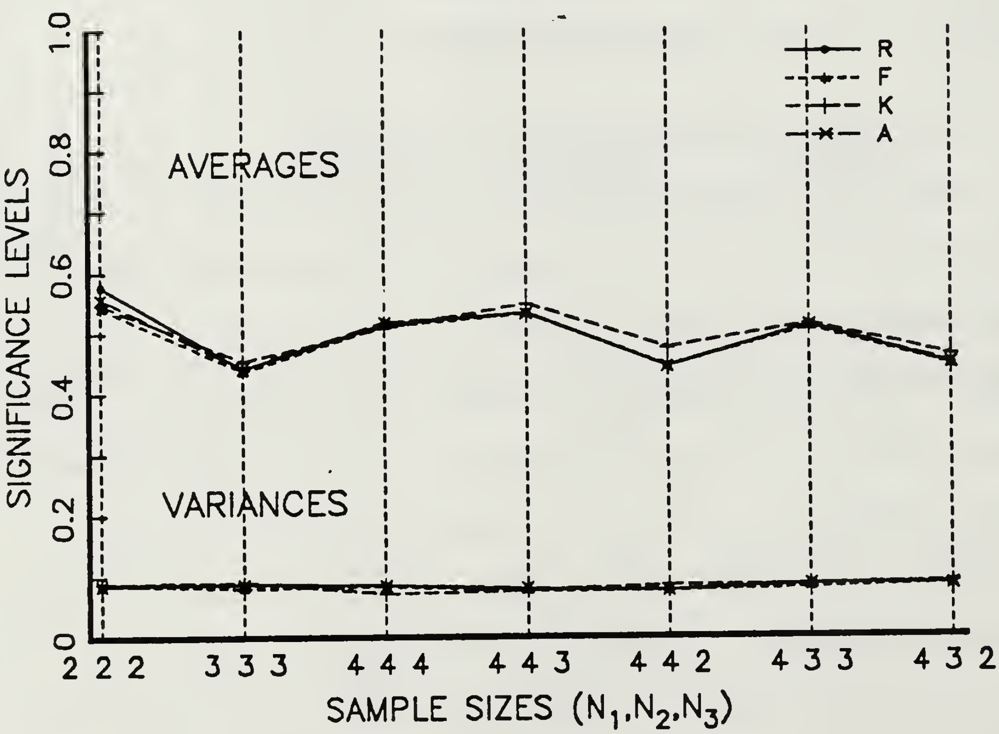


Figure 11. ANOVA Changes in Sample Sizes

Figure 12 shows histograms for the cases $(n_1, n_2, n_3) = (4,4,4)$ when the null hypothesis was true and the sampled distributions were N(0,1). Table 5 shows the Kolmogorov-Smirnov uniform goodness of fit test significance levels. As anticipated, no disagreement with expected results was found.

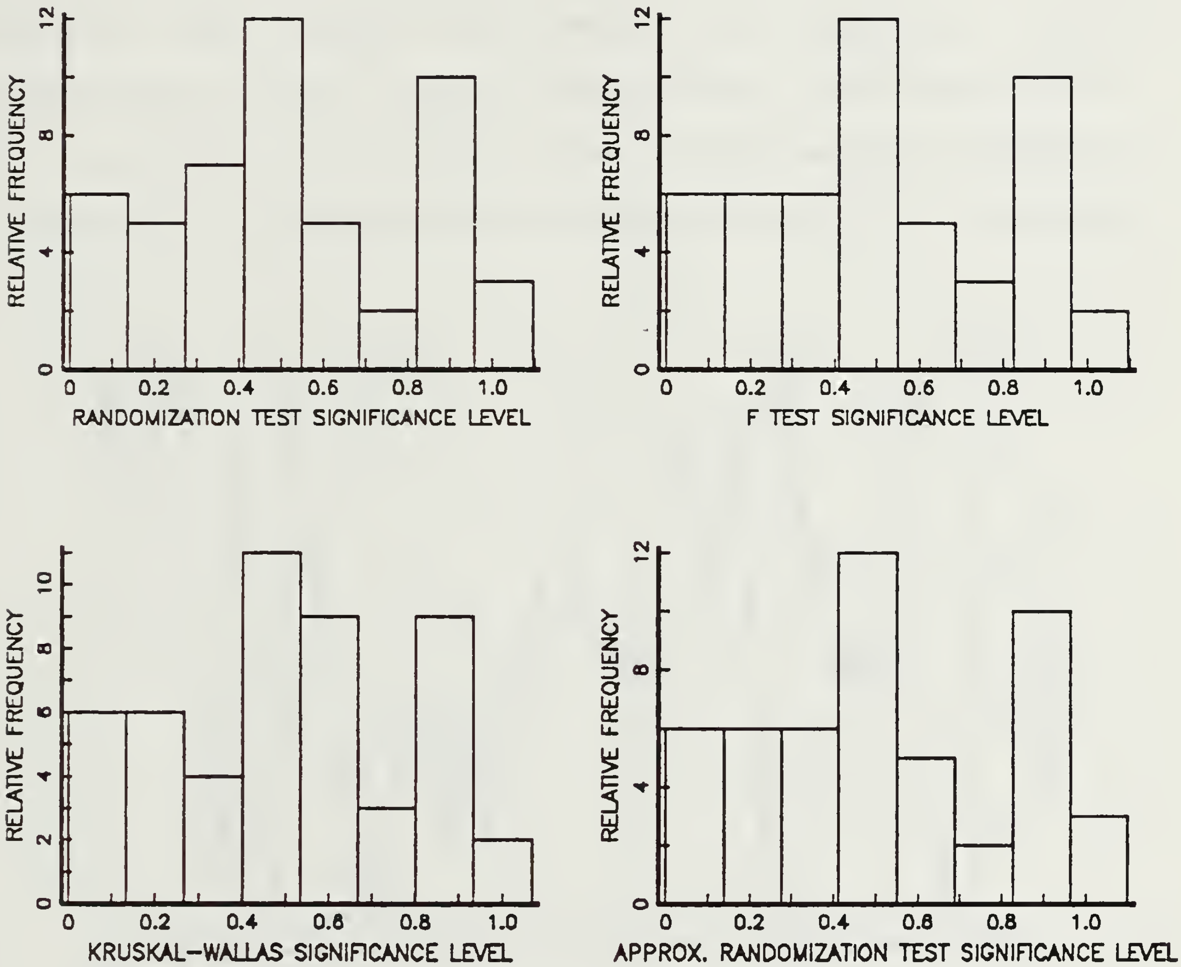


Figure 12. ANOVA Histograms for N(0,1) Samples

A plot of the significance values obtained for samples from N(0,1) distributions for the case (n_1, n_2, n_3) =

TABLE 6

ANOVA UNIFORM GOODNESS OF FIT TESTS

Test	Kolmogorov-Smirnov Significance
randomization	0.55
F test	0.65
Kruskal-Wallis	0.43
approximate randomization	0.48

(4,4,4) is shown in Figure 13. Again, the marginal properties of the nonparametric test are considerably different from the other tests although the averages and variances of the significance levels are fairly consistent.

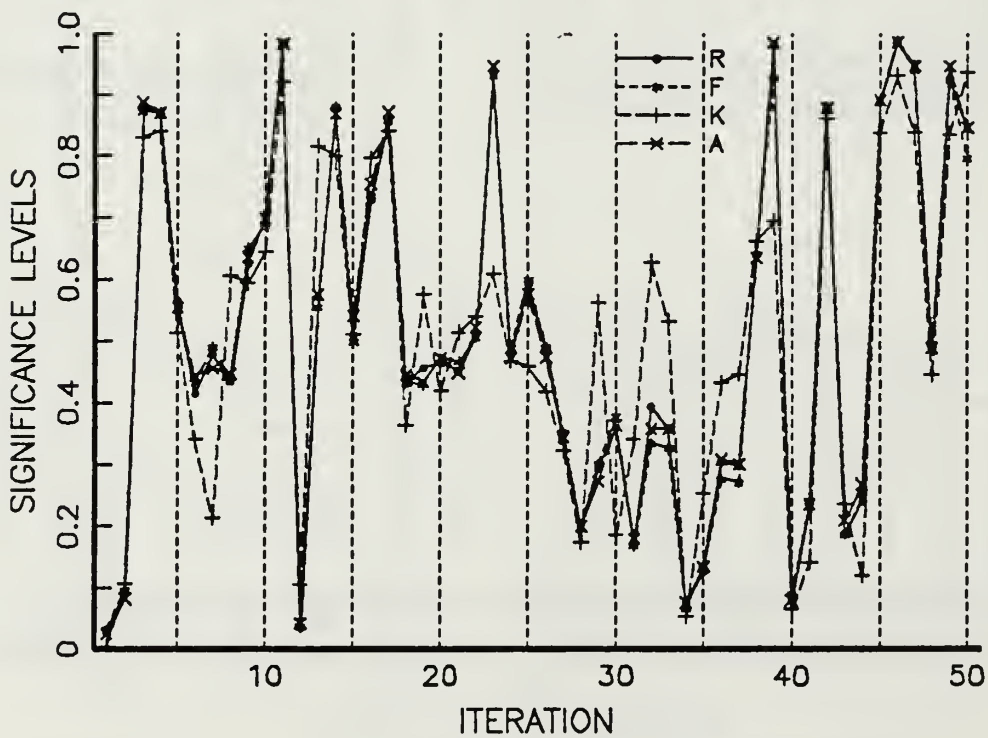


Figure 13. ANOVA Significance Levels by Iteration

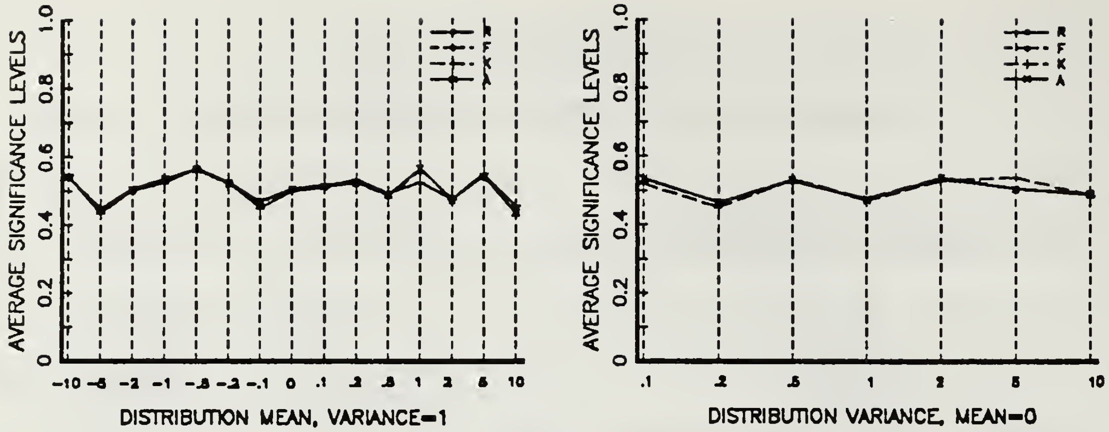
2. Changes in Sampled Distributions

To examine each tests' performance under changes of sampled distributions, the sampled distributions and the distribution parameters were varied for sample sizes (n_1,n_2,n_3) = (2,2,2), (3,3,3), (4,3,2), (4,3,3), and (4,4,4). Distributions included the normal, exponential, uniform, gamma, and weibull distributions. The sample size for the approximate randomization distribution was fixed at 1000. The results of these runs appear in Appendix E.

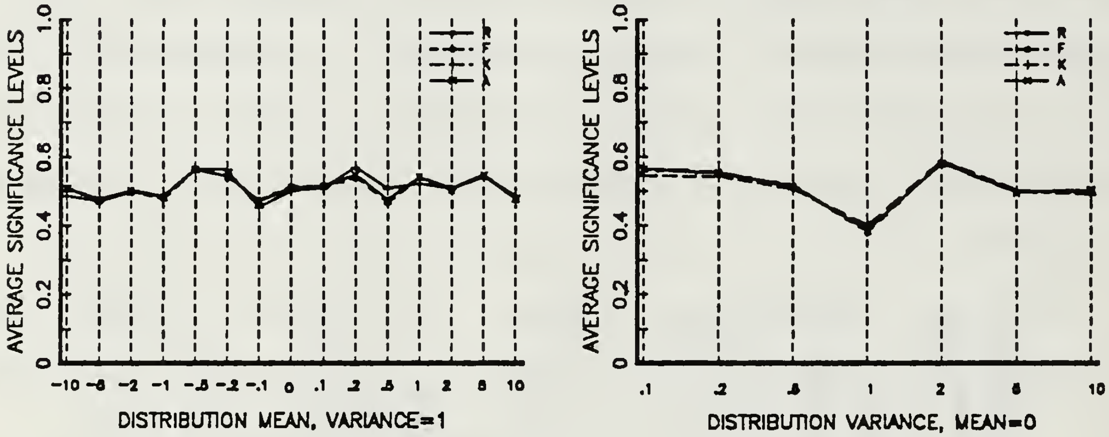
Plots of the average significance levels for (n_1,n_2,n_3) = (4,4,4), (3,3,3), and (2,2,2) and concurrent changes in normal distributions are shown in Figure 14. As in the two sample case, greater variability between test results is evident for the smaller sample sizes. Otherwise, no significant differences can be determined.

Figure 15 shows the average significance levels obtained for each test for (n_1,n_2,n_3) = (4,4,4) and concurrent changes in the parameters of the continuous distributions - exponential, uniform, gamma, and weibull. For even the small sample sizes examined, the average significance values are in close agreement.

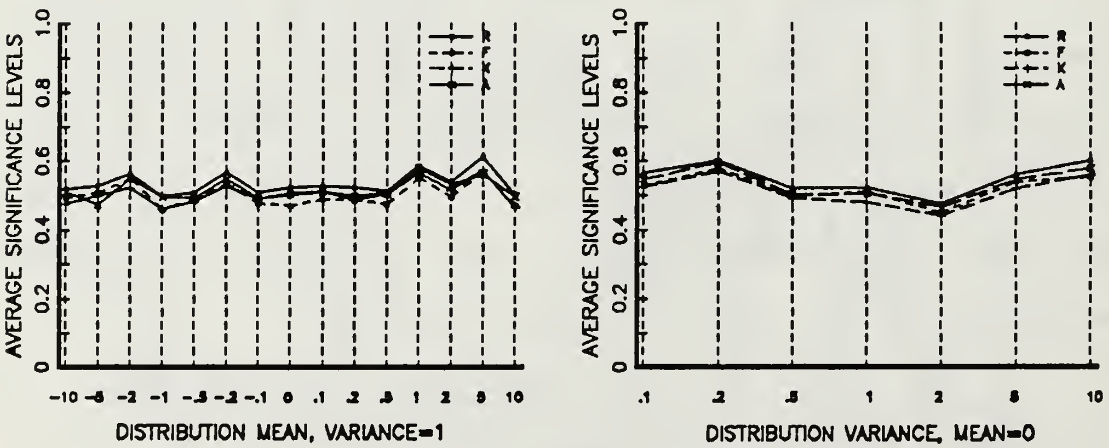
For each of the selected distributions, the parameters affecting the sampling distribution of sample 1 were varied while the parameters effecting sample 2 were held fixed. For normal distributions, Figure 16 shows the resulting average significance levels for changes in the



$(N_1,N_2,N_3)=(4,4,4)$



$(N_1,N_2,N_3)=(3,3,3)$



$(N_1,N_2,N_3)=(2,2,2)$

Figure 14. ANOVA Concurrent Changes in Normal Distributions

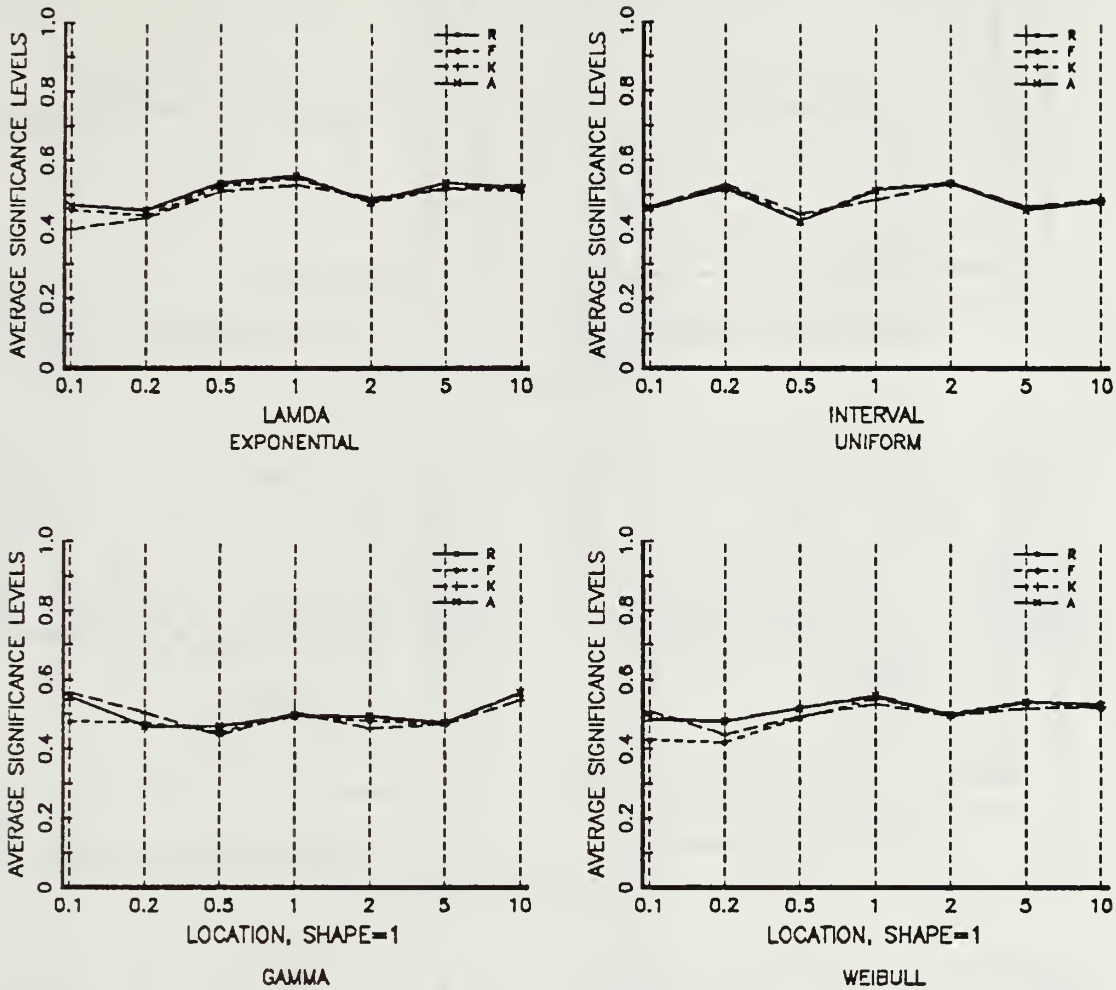


Figure 15. ANOVA Concurrent Changes in Continuous Distributions

means and changes in the variances. For all cases, sample 2 was composed of N(0,1) random deviates. This figure continues to show little significant difference in each tests' average significance levels except for extremely small sample sizes. Figure 17 shows the simulation results for the other selected distributions for the cases

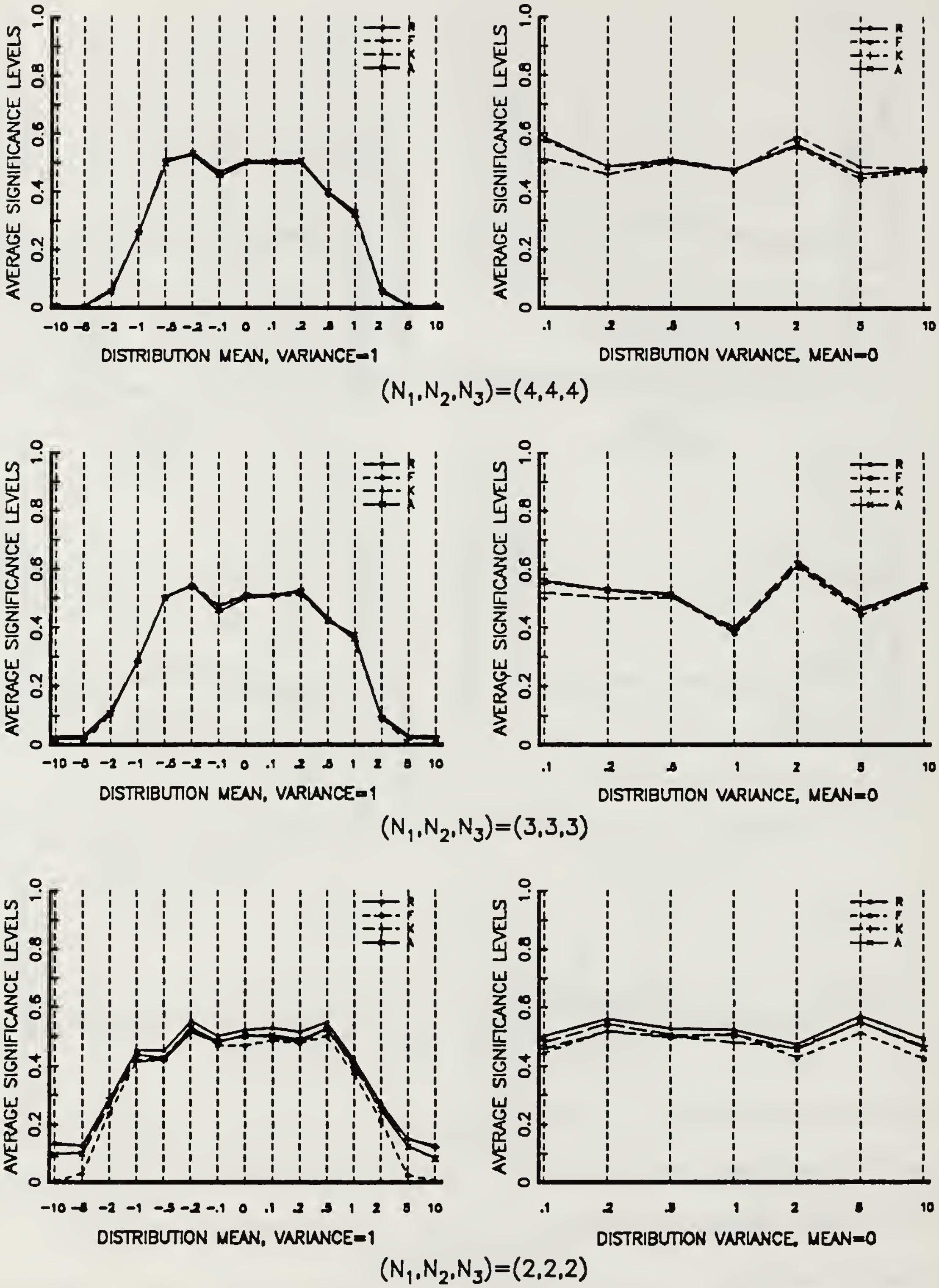


Figure 16. ANOVA Normal Distributional Changes

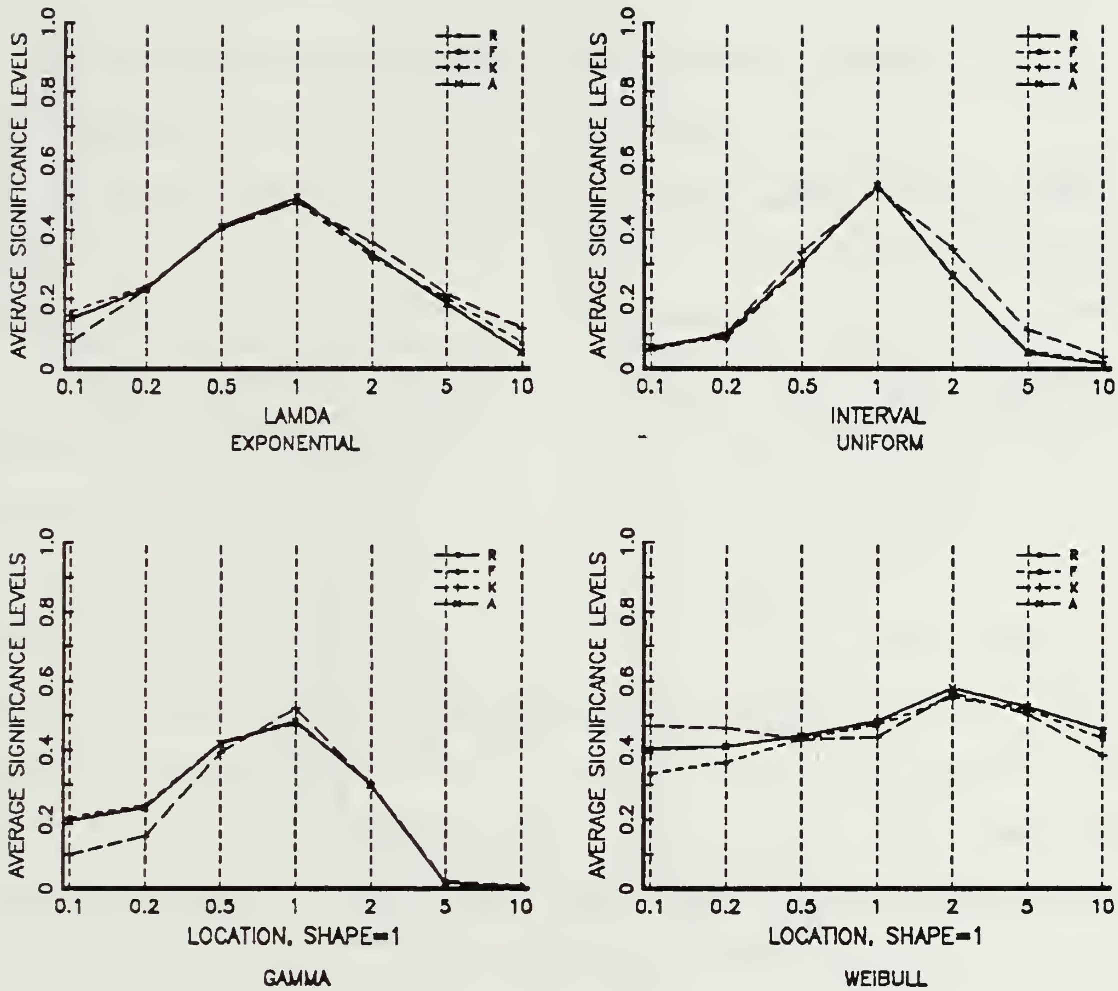


Figure 17. ANOVA Continuous Distributional Changes

$(n_1, n_2, n_3) = (4, 4, 4)$. As previously, the nonparametric test average significance levels are consistently different. Furthermore, all the tests are inefficient in determining the significance levels when the sampled distributions is of a weibull form.

3. <u>Changes in Approximate Randomization Sample Size</u>

To examine the performance of the approximate randomization test for changes in β, the sample size, β, of the approximate randomization distribution was varied over the set 200, 300, . . . , 1900, 2000 with changes in sample size over $(n_1, n_2, n_3) = (2,2,2)$, $(3,3,3)$, $(4,4,4)$, $(4,4,3)$, $(4,4,2)$, $(4,3,3)$, and $(4,3,2)$. The averages and variances of the significance levels for each test appear in Appendix F. Figure 18 contains plots of these values for the cases of equal sample sizes. Plots of the average values for the unequal sample sizes appear in Figure 19. As shown in these two figures, the differences in average significance levels obtained for both exact randomization test and the approximate randomization test are nearly indistinguisable over the changes in β.

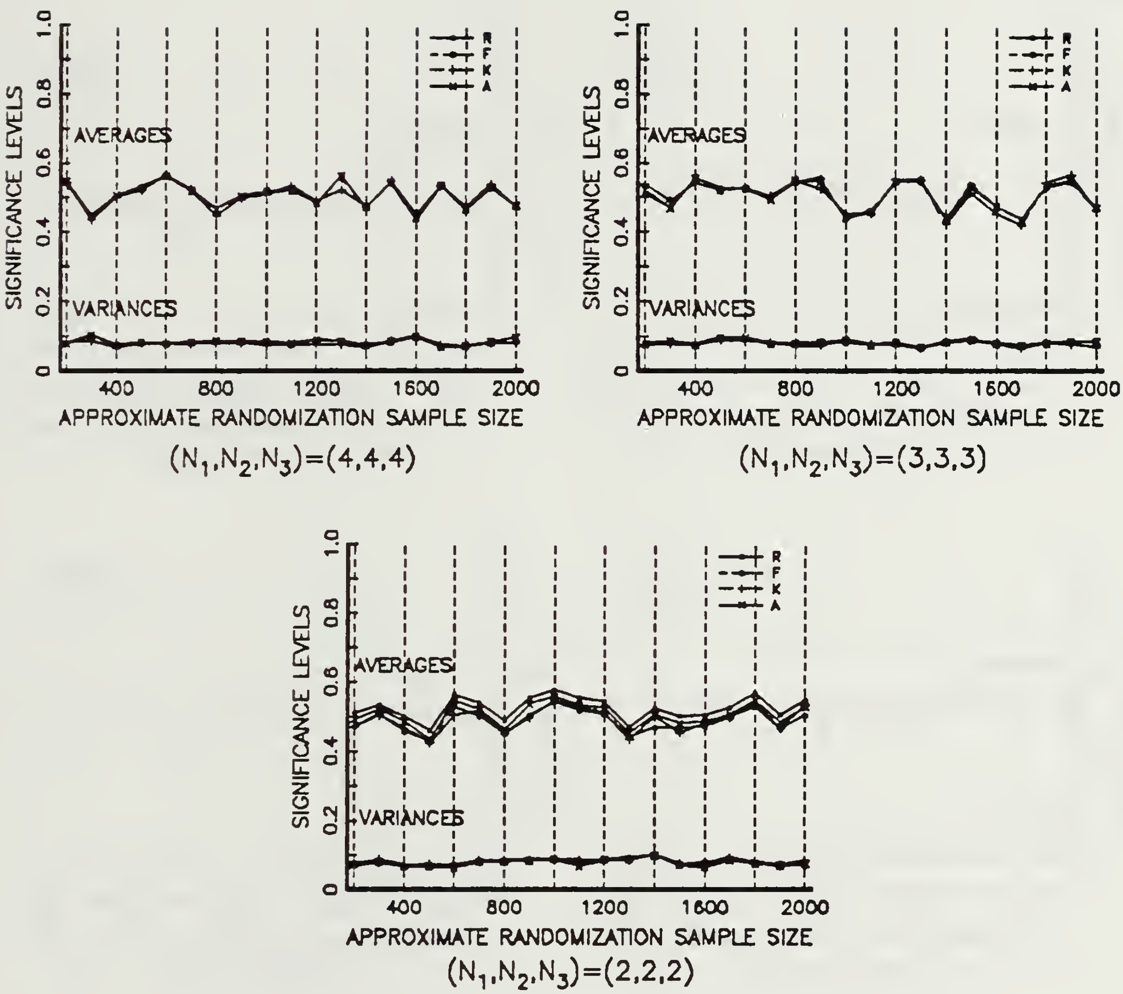


Figure 18. ANOVA Changes in Approximate Randomization Sample Size, Equal Data Sample Sizes

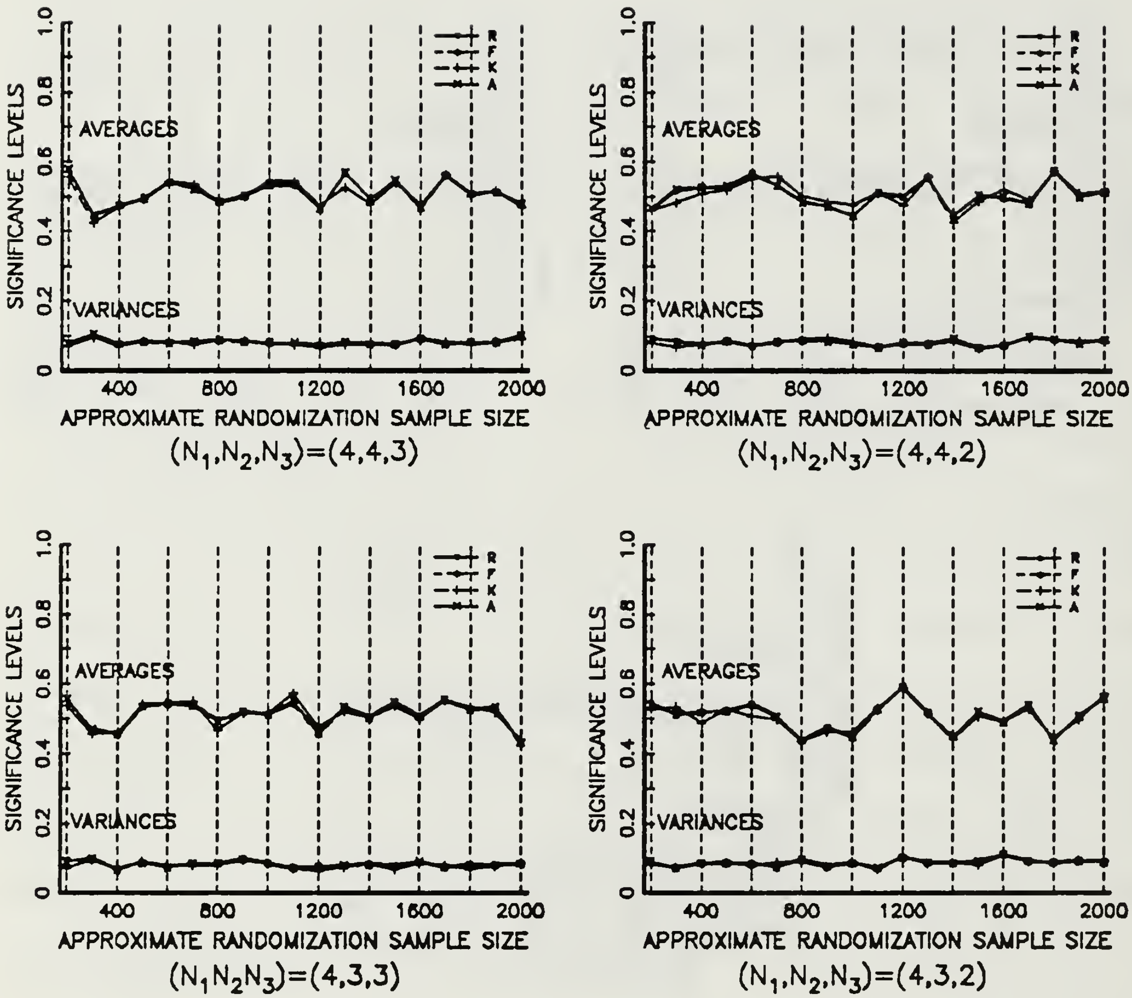


Figure 19. ANOVA Changes in Approximate Randomization Sample Size, Unequal Data Sample Sizes

V. SUMMARY

A. CONCLUSIONS

For the two sample comparison of means and one-way analysis of variance, specific randomization test procedures have been detailed. For these two tests, results of Monte Carlo simulation indicate that over changes in sample sizes and sample distributions: (1) randomization tests are as robust as t and F tests, and (2) randomization tests are as powerful as t and F tests. Furthermore, under the conditions examined, randomization tests were found to be more robust and powerful than other comparable nonparametric tests. An interesting result of the simulation was that although the average significance levels may be nearly identical, the iteration-by-iteration significance levels of the nonparametric tests tended to vary consistently from the other tests. This may indicate that use of these nonparametric tests could result in markedly different decisions on a test by test basis. Lastly, results of the simulation indicate that approximate randomization tests are good approximations to the more exact randomization tests over changes in sample sizes and distributions, as well as changes in the sample size of the approximate randomization distribution.

It is clear from these findings that randomization tests and approximate randomization tests have better performance than other nonparametric tests in the contexts examined. Furthermore, the robustness and power of the approximate randomization tests, t tests, and F tests clearly mark them as excellent alternatives to randomization tests when randomization tests may be impractical.

B. AREAS FOR FURTHER RESEARCH

There are many practical applications where randomization tests may be the only truly valid tests, and yet, this thesis has shown that parametric alternatives can offer good approximations. Continued research should be accomplished in experimental design and data analysis situations not examined in this thesis. Some of these areas were given in the introduction. Furthermore, based on the apparent ability of approximate randomization tests to approximate randomization tests, the practical applicability of approximate randomization tests should be examined in other statistical contexts.

APPENDIX A

TWO SAMPLE CHANGES IN SAMPLE SIZES

NUMBER OF ITERATIONS: 50
SAMPLE DISTRIBUTIONS: N(0,1)
APPROXIMATE RANDOMIZATION SAMPLE SIZE: 1000

	SAMPLE SIZES		AVERAGES				VARIANCES			
CASE	1	2	R	T	M	A	R	T	M	A
1	2	1	0.5933	0.4356	0.3820	0.5934	0.0648	0.0688	0.0252	0.0647
2		2	0.5667	0.4797	0.4417	0.5640	0.0782	0.0791	0.0495	0.0776
3	3	1	0.5850	0.4787	0.4602	0.5354	0.0781	0.0852	0.0397	0.0778
4		2	0.5440	0.4867	0.4563	0.5375	0.0731	0.0795	0.0488	0.0773
5		3	0.5280	0.5017	0.5168	0.5206	0.0709	0.0719	0.0476	0.0709
6	4	1	0.6560	0.5661	0.5214	0.6033	0.0915	0.0878	0.0625	0.0986
7		2	0.5800	0.5518	0.5160	0.5662	0.0888	0.0842	0.0684	0.0869
8		3	0.4840	0.4729	0.4727	0.4784	0.0915	0.0931	0.0729	0.0920
9		4	0.5306	0.5264	0.5165	0.5295	0.0775	0.0784	0.0598	0.0782
10	5	1	0.5200	0.4461	0.4602	0.4770	0.0756	0.0875	0.0530	0.0731
11		2	0.5333	0.5166	0.5114	0.5196	0.0937	0.0974	0.0717	0.0953
12		3	0.5146	0.5091	0.5014	0.5100	0.1023	0.1004	0.0860	0.1016
13		4	0.5279	0.5215	0.5286	0.5291	0.1073	0.1086	0.0845	0.1057
14		5	0.4975	0.4948	0.4979	0.4950	0.0729	0.0724	0.0677	0.0739
15	6	1	0.5343	0.4624	0.4562	0.4991	0.0790	0.0768	0.0579	0.0840
16		2	0.4564	0.4386	0.4482	0.4457	0.0823	0.0809	0.0626	0.0830
17		3	0.4771	0.4735	0.4606	0.4771	0.0811	0.0813	0.0763	0.0809
18		4	0.5530	0.5481	0.5504	0.5509	0.0883	0.0874	0.0762	0.0881
19		5	0.4869	0.4840	0.4932	0.4892	0.0952	0.0958	0.0818	0.0956
20		6	0.5534	0.5522	0.5339	0.5503	0.0868	0.0871	0.0775	0.0865
21	7	1	0.6875	0.6207	0.6110	0.6570	0.0614	0.0594	0.0464	0.0663
22		2	0.4178	0.4040	0.3932	0.4086	0.0857	0.0853	0.0701	0.0849
23		3	0.5283	0.5201	0.5478	0.5237	0.0705	0.0697	0.0549	0.0698
24		4	0.5546	0.5542	0.5424	0.5541	0.0897	0.0893	0.0745	0.0891
25		5	0.4710	0.4707	0.4465	0.4707	0.0833	0.0839	0.0720	0.0831
26		6	0.4371	0.4361	0.4324	0.4382	0.0889	0.0890	0.0805	0.0874
27		7	0.5079	0.5076	0.5001	0.5108	0.0852	0.0849	0.0816	0.0848

APPENDIX B

TWO SAMPLE DISTRIBUTIONAL CHANGES

NUMBER OF ITERATIONS: 50
APPROXIMATE RANDOMIZATION SAMPLE SIZE: 1000

CASE	SAMPLE SIZES 1	2	SAMPLED DISTRIBUTIONS 1	2	AVERAGES R	T	M	A	VARIANCES R	T	M	A
28	7	5	N(-10,1)	N(-10,1)	0.5010	0.5019	0.4883	0.5017	0.0750	0.0756	0.0687	0.0757
29			(-5,1)	(-5,1)	0.4433	0.4423	0.4618	0.4432	0.0909	0.0903	0.0883	0.0906
30			(-2,1)	(-2,1)	0.4592	0.4583	0.4793	0.4578	0.0980	0.0981	0.0908	0.0986
31			(-1,1)	(-1,1)	0.5204	0.5188	0.5146	0.5205	0.0736	0.0748	0.0579	0.0754
32			(-.5,1)	(-.5,1)	0.4433	0.4434	0.4347	0.4461	0.0892	0.0886	0.0818	0.0909
33			(-.2,1)	(-.2,1)	0.5450	0.5467	0.5338	0.5469	0.0782	0.0776	0.0690	0.0773
34			(-.1,1)	(-.1,1)	0.5515	0.5513	0.5464	0.5501	0.0819	0.0814	0.0734	0.0819
35			(0,1)	(0,1)	0.5577	0.5564	0.5517	0.5576	0.0872	0.0860	0.0779	0.0887
36			(.1,1)	(.1,1)	0.5631	0.5621	0.5323	0.5626	0.0799	0.0785	0.0792	0.0798
37			(.2,1)	(.2,1)	0.4884	0.4878	0.4968	0.4918	0.0820	0.0815	0.0667	0.0818
38			(.5,1)	(.5,1)	0.4862	0.4867	0.4804	0.4858	0.0763	0.0765	0.0719	0.0766
39			(1,1)	(1,1)	0.4619	0.4612	0.4548	0.4631	0.0717	0.0720	0.0565	0.0716
40			(2,1)	(2,1)	0.5481	0.5485	0.5424	0.5480	0.1007	0.1011	0.0800	0.1004
41			(5,1)	(5,1)	0.5045	0.5033	0.5246	0.5026	0.0771	0.0773	0.0660	0.0788
42			(10,1)	(10,1)	0.4772	0.4748	0.4743	0.4804	0.0899	0.0895	0.0855	0.0910
43			(0,.1)	(0,.1)	0.4906	0.4889	0.4580	0.4901	0.0853	0.0859	0.0720	0.0838
44			(0,.2)	(0,.2)	0.4355	0.4350	0.4084	0.4366	0.0747	0.0742	0.0613	0.0754
45			(0,.5)	(0,.5)	0.4454	0.4459	0.4431	0.4471	0.0807	0.0807	0.0663	0.0802
46			(0,1)	(0,1)	0.5787	0.5802	0.5612	0.5796	0.0652	0.0653	0.0585	0.0652
47			(0,2)	(0,2)	0.5000	0.5008	0.4760	0.5031	0.0716	0.0717	0.0638	0.0709
48			(0,5)	(0,5)	0.5302	0.5294	0.5413	0.5294	0.0898	0.0891	0.0784	0.0902
49			(0,10)	(0,10)	0.5017	0.5008	0.5006	0.5015	0.0786	0.0769	0.0767	0.0804
50	7	6	(-10,1)	(-10,1)	0.4907	0.4902	0.4861	0.4919	0.0820	0.0814	0.0742	0.0815
51			(-5,1)	(-5,1)	0.4781	0.4776	0.4833	0.4794	0.0993	0.0985	0.0932	0.1011
52			(-2,1)	(-2,1)	0.5408	0.5399	0.5413	0.5386	0.0803	0.0802	0.0804	0.0804
53			(-1,1)	(-1,1)	0.4994	0.5022	0.4832	0.4978	0.0547	0.0552	0.0527	0.0542
54			(-.5,1)	(-.5,1)	0.5189	0.5194	0.5293	0.5182	0.0592	0.0595	0.0604	0.0585
55			(-.2,1)	(-.2,1)	0.4696	0.4696	0.4595	0.4705	0.0731	0.0735	0.0563	0.0739
56			(-.1,1)	(-.1,1)	0.4548	0.4540	0.4503	0.4523	0.1055	0.1050	0.1011	0.1051
57			(0,1)	(0,1))	0.5487	0.5480	0.5500	0.5491	0.0685	0.0686	0.0650	0.0692
58			(.1,1)	(.1,1)	0.4913	0.4905	0.4715	0.4885	0.0919	0.0921	0.0874	0.0919
59			(.2,1)	(.2,1)	0.4727	0.4726	0.4708	0.4741	0.0842	0.0846	0.0763	0.0846
60			(.5,1)	(.5,1)	0.4859	0.4861	0.4770	0.4869	0.0870	0.0865	0.0849	0.0858
61			(1,1)	(1,1)	0.4879	0.4876	0.4632	0.4898	0.0933	0.0932	0.0830	0.0943
62			(2,1)	(2,1)	0.5247	0.5251	0.5215	0.5267	0.0742	0.0740	0.0677	0.0739
63			(5,1)	(5,1)	0.4675	0.4657	0.4771	0.4672	0.0710	0.0713	0.0563	0.0707
64			(10,1)	(10,1)	0.5073	0.5062	0.4850	0.5093	0.0896	0.0899	0.0830	0.0900
65			(0,.1)	(0,.1)	0.5133	0.5144	0.5074	0.5140	0.1063	0.1054	0.0937	0.1070
66			(0,.2)	(0,.2)	0.4652	0.4654	0.4703	0.4659	0.0965	0.0959	0.0885	0.0967
67			(0,.5)	(0,.5)	0.5277	0.5268	0.5248	0.5282	0.0829	0.0832	0.0835	0.0831
68			(0,1)	(0,1)	0.5029	0.5023	0.4907	0.5044	0.0855	0.0854	0.0782	0.0845
69			(0,2)	(0,2)	0.5078	0.5063	0.4891	0.5078	0.0927	0.0931	0.0857	0.0916
70			(0,5)	(0,5)	0.5377	0.5377	0.5313	0.5401	0.0775	0.0778	0.0679	0.0773
71			(0,10)	(0,10)	0.5051	0.5055	0.5017	0.5043	0.0768	0.0767	0.0760	0.0769
72	7	7	(-10,1)	(-10,1)	0.4360	0.4362	0.4429	0.4386	0.0785	0.0784	0.0700	0.0788
73			(-5,1)	(-5,1)	0.5051	0.5036	0.5105	0.5084	0.0937	0.0939	0.0831	0.0935
74			(-2,1)	(-2,1)	0.4601	0.4601	0.4608	0.4608	0.0843	0.0844	0.0785	0.0837
75			(-1,1)	(-1,1)	0.4856	0.4864	0.4878	0.4887	0.0781	0.0787	0.0688	0.0766
76			(-.5,1)	(-.5,1)	0.5786	0.5787	0.5797	0.5793	0.0942	0.0936	0.0891	0.0926
77			(-.2,1)	(-.2,1)	0.4670	0.4663	0.4666	0.4650	0.0851	0.0843	0.0749	0.0853

78			(-.1,1)	(-.1,1)	0.4606	0.4610	0.4604	0.4587	0.0895	0.0895	0.0864	0.0888
79			(0,1)	(0,1)	0.4434	0.4434	0.4497	0.4407	0.0869	0.0869	0.0707	0.0871
80			(.1,1)	(.1,1)	0.4843	0.4841	0.4876	0.4836	0.0934	0.0934	0.0898	0.0936
81			(.2,1)	(.2,1)	0.4926	0.4924	0.5006	0.4945	0.0960	0.0952	0.0920	0.0957
82			(.5,1)	(.5,1)	0.4549	0.4526	0.4441	0.4579	0.0720	0.0721	0.0569	0.0722
83			(1,1)	(1,1)	0.4869	0.4869	0.4887	0.4870	0.1054	0.1049	0.1009	0.1054
84			(2,1)	(2,1)	0.5580	0.5576	0.5752	0.5564	0.0614	0.0611	0.0583	0.0620
85			(5,1)	(5,1)	0.4579	0.4585	0.4561	0.4563	0.0968	0.0969	0.0860	0.0956
86			(10,1)	(10,1)	0.4560	0.4564	0.4675	0.4551	0.1045	0.1046	0.0981	0.1038
87			(0,.1)	(0,.1)	0.5868	0.5861	0.5763	0.5859	0.0856	0.0853	0.0750	0.0851
88			(0,.2)	(0,.2)	0.4552	0.4534	0.4468	0.4546	0.0951	0.0955	0.0859	0.0956
89			(0,.5)	(0,.5)	0.5050	0.5057	0.4817	0.5034	0.0632	0.0632	0.0564	0.0631
90			(0,1)	(0,1)	0.5010	0.5020	0.5031	0.5008	0.0889	0.0895	0.0729	0.0900
91			(0,2)	(0,2)	0.4928	0.4916	0.4917	0.4956	0.0821	0.0821	0.0757	0.0814
92			(0,5)	(0,5)	0.5648	0.5645	0.5460	0.5664	0.0851	0.0850	0.0785	0.0853
93			(0,10)	(0,10)	0.5120	0.5122	0.5046	0.5130	0.0982	0.0979	0.0926	0.0978
94	7	5	(-10,1)	(0,1)	1.0000	1.0000	0.9986	0.9997	0.0000	0.0000	0.0000	0.0000
95			(-5,1)		1.0000	1.0000	0.9986	0.9998	0.0000	0.0000	0.0000	0.0000
96			(-2,1)		0.9700	0.9710	0.9555	0.9707	0.0041	0.0040	0.0081	0.0040
97			(-1,1)		0.9016	0.9015	0.8821	0.9023	0.0137	0.0135	0.0173	0.0130
98			(-.5,1)		0.6675	0.6677	0.6544	0.6675	0.0780	0.0780	0.0681	0.0801
99			(0,1)		0.5450	0.5467	0.5338	0.5467	0.0782	0.0776	0.0690	0.0772
100			(.5,1)		0.3218	0.3192	0.3562	0.3186	0.0655	0.0645	0.0628	0.0656
101			(1,1)		0.1502	0.1505	0.1711	0.1520	0.0273	0.0283	0.0341	0.0278
102			(2,1)		0.0195	0.0185	0.0295	0.0216	0.0012	0.0014	0.0030	0.0014
103			(5,1)		0.0013	0.0000	0.0014	0.0020	0.0000	0.0000	0.0000	0.0000
104			(10,1)		0.0013	0.0000	0.0014	0.0023	0.0000	0.0000	0.0000	0.0000
105			(0,.1)	(0,1)	0.4182	0.4079	0.3993	0.4171	0.0839	0.0877	0.0886	0.0827
106			(0,.2)		0.5503	0.5498	0.5508	0.5490	0.1012	0.1079	0.0753	0.1011
107			(0,.5)		0.5175	0.5154	0.5414	0.5167	0.0793	0.0819	0.0723	0.0800
108			(0,1)		0.4772	0.4748	0.4743	0.4802	0.0899	0.0895	0.0855	0.0910
109			(0,2)		0.4831	0.4826	0.4608	0.4820	0.0705	0.0718	0.0744	0.0688
110			(0,5)		0.4161	0.4191	0.4280	0.4161	0.0738	0.0761	0.0779	0.0740
111			(0,10)		0.4694	0.4686	0.4638	0.4720	0.0708	0.0720	0.0633	0.0709
112	7	6	(-10,1)	(0,1)	1.0000	1.0000	0.9994	0.9998	0.0000	0.0000	0.0000	0.0000
113			(-5,1)		1.0000	1.0000	0.9994	0.9999	0.0000	0.0000	0.0000	0.0000
114			(-2,1)		0.9939	0.9939	0.9887	0.9940	0.0001	0.0001	0.0004	0.0001
115			(-1,1)		0.9078	0.9079	0.8921	0.9064	0.0261	0.0259	0.0265	0.0260
116			(-.5,1)		0.7419	0.7412	0.7232	0.7422	0.0459	0.0460	0.0473	0.0462
117			(0,1)		0.4781	0.4776	0.4833	0.4793	0.0993	0.0985	0.0932	0.1011
118			(.5,1)		0.2781	0.2778	0.3171	0.2755	0.0519	0.0523	0.0619	0.0509
119			(1,1)		0.0967	0.0952	0.1248	0.0974	0.0125	0.0125	0.0184	0.0119
120			(2,1)		0.0073	0.0071	0.0092	0.0087	0.0002	0.0002	0.0002	0.0002
121			(5,1)		0.0006	0.0000	0.0006	0.0014	0.0000	0.0000	0.0000	0.0000
122			(10,1)		0.0006	0.0000	0.0006	0.0016	0.0000	0.0000	0.0000	0.0000
123			(0,.1)	(0,1)	0.5423	0.5407	0.5465	0.5412	0.0697	0.0717	0.0816	0.0721
124			(0,.2)		0.5161	0.5172	0.5139	0.5186	0.1108	0.1145	0.1036	0.1105
125			(0,.5)		0.4676	0.4670	0.4788	0.4677	0.0853	0.0875	0.0804	0.0844
126			(0,1)		0.4859	0.4861	0.4770	0.4867	0.0870	0.0865	0.0849	0.0857
127			(0,2)		0.5030	0.5022	0.4694	0.5062	0.0944	0.0950	0.0907	0.0957
128			(0,5)		0.5214	0.5221	0.5373	0.5212	0.0806	0.0821	0.0832	0.0806
129			(0,10)		0.4843	0.4795	0.4630	0.4858	0.0696	0.0747	0.0624	0.0697
130	7	7	(-10,1)	(0,1)	1.0000	1.0000	0.9997	0.9999	0.0000	0.0000	0.0000	0.0000
131			(-5,1)		1.0000	1.0000	0.9997	0.9999	0.0000	0.0000	0.0000	0.0000
132			(-2,1)		0.9946	0.9949	0.9920	0.9950	0.0001	0.0001	0.0002	0.0001
133			(-1,1)		0.8967	0.8965	0.8895	0.8977	0.0236	0.0236	0.0230	0.0227
134			(-.5,1)		0.7597	0.7588	0.7485	0.7603	0.0437	0.0439	0.0412	0.0430
135			(0,1)		0.5245	0.5243	0.4973	0.5250	0.0789	0.0789	0.0726	0.0793
136			(.5,1)		0.2147	0.2165	0.2202	0.2131	0.0413	0.0421	0.0385	0.0405
137			(1,1)		0.0772	0.0767	0.0988	0.0801	0.0148	0.0149	0.0221	0.0149
138			(2,1)		0.0089	0.0085	0.0135	0.0097	0.0003	0.0003	0.0007	0.0003
139			(5,1)		0.0003	0.0000	0.0003	0.0012	0.0000	0.0000	0.0000	0.0000
140			(10,1)		0.0003	0.0000	0.0003	0.0012	0.0000	0.0000	0.0000	0.0000

141			(0,.1)	(0,1)	0.5877	0.5900	0.5438	0.5892	0.0821	0.0845	0.0797	0.0816
142			(0,.2)		0.4514	0.4486	0.4182	0.4517	0.0854	0.0890	0.0780	0.0857
143			(0,.5)		0.4727	0.4719	0.4722	0.4714	0.0813	0.0826	0.0768	0.0801
144			(0,1)		0.4434	0.4434	0.4497	0.4455	0.0869	0.0869	0.0707	0.0872
145			(0,2)		0.5199	0.5207	0.5061	0.5238	0.0824	0.0826	0.0888	0.0818
146			(0,5)		0.5113	0.5109	0.5318	0.5142	0.0732	0.0758	0.0771	0.0742
147			(0,10)		0.4765	0.4740	0.4807	0.4796	0.0952	0.0966	0.0873	0.0961
148	7	5	EXP(.1)	EXP(.1)	0.4351	0.4302	0.4471	0.4348	0.0928	0.0680	0.0873	0.0924
149			(.2)	(.2)	0.5609	0.5453	0.5673	0.5601	0.0821	0.0796	0.0743	0.0825
150			(.5)	(.5)	0.5456	0.4964	0.5627	0.5438	0.0780	0.0645	0.0707	0.0782
151			(1)	(1)	0.4639	0.4582	0.4486	0.4630	0.0742	0.0656	0.0717	0.0741
152			(2)	(2)	0.5449	0.5267	0.5185	0.5432	0.0808	0.0656	0.0694	0.0807
153			(5)	(5)	0.4605	0.4755	0.5000	0.4568	0.0901	0.0551	0.0958	0.0891
154			(10)	(10)	0.4575	0.4722	0.4631	0.4593	0.0811	0.0642	0.0814	0.0808
155			(.1)	(1)	0.9867	0.9322	0.9663	0.9869	0.0003	0.0049	0.0030	0.0003
156			(.2)		0.9719	0.9152	0.9463	0.9731	0.0014	0.0047	0.0059	0.0013
157			(.5)		0.8432	0.7383	0.7946	0.8452	0.0250	0.0481	0.0276	0.0243
158			(1)		0.4389	0.4143	0.4276	0.4413	0.1040	0.0699	0.0937	0.1030
159			(2)		0.2466	0.3163	0.2952	0.2470	0.0669	0.0553	0.0649	0.0669
160			(5)		0.0387	0.2200	0.0530	0.0387	0.0032	0.0304	0.0056	0.0035
161			(10)		0.0135	0.1681	0.0255	0.0154	0.0007	0.0138	0.0030	0.0008
162	7	6	(.1)	(.1)	0.4970	0.5026	0.4993	0.5033	0.0844	0.0758	0.0804	0.0855
163			(.2)	(.2)	0.4117	0.4066	0.4336	0.4122	0.0842	0.0809	0.0810	0.0844
164			(.5)	(.5)	0.5308	0.5178	0.5261	0.5317	0.0901	0.1034	0.0724	0.0898
165			(1)	(1)	0.5223	0.4990	0.5220	0.5240	0.0782	0.0880	0.0722	0.0784
166			(2)	(2)	0.4176	0.4323	0.4547	0.4201	0.0730	0.0685	0.0768	0.0724
167			(5)	(5)	0.5417	0.5389	0.5023	0.5407	0.0889	0.0849	0.0751	0.0889
168			(10)	(10)	0.4822	0.4732	0.4799	0.4826	0.0641	0.0783	0.0615	0.0643
169			(.1)	(1)	0.9902	0.9621	0.9808	0.9902	0.0004	0.0019	0.0037	0.0004
170			(.2)		0.9535	0.9452	0.9109	0.9536	0.0057	0.0042	0.0183	0.0056
171			(.5)		0.7610	0.7248	0.7431	0.7612	0.0522	0.0521	0.0451	0.0528
172			(1)		0.5072	0.5192	0.5401	0.5072	0.0783	0.0817	0.0769	0.0786
173			(2)		0.1823	0.2309	0.2121	0.1833	0.0398	0.0423	0.0361	0.0398
174			(5)		0.0381	0.0980	0.0620	0.0384	0.0028	0.0109	0.0077	0.0027
175			(10)		0.0047	0.0398	0.0107	0.0055	0.0000	0.0020	0.0003	0.0000
176	7	7	(.1)	(.1)	0.4747	0.4741	0.4559	0.4774	0.0845	0.0864	0.0655	0.0841
177			(.2)	(.2)	0.5493	0.5482	0.5342	0.5525	0.0774	0.0801	0.0672	0.0776
178			(.5)	(.5)	0.4733	0.4758	0.4436	0.4760	0.0858	0.0870	0.0756	0.0856
179			(1)	(1)	0.5032	0.5020	0.5050	0.5039	0.0683	0.0729	0.0620	0.0695
180			(2)	(2)	0.4240	0.4235	0.4324	0.4216	0.0678	0.0707	0.0644	0.0672
181			(5)	(5)	0.4739	0.4724	0.4689	0.4725	0.0905	0.0923	0.0905	0.0907
182			(10)	(10)	0.4479	0.4512	0.4609	0.4469	0.0902	0.0944	0.0878	0.0909
183			(.1)	(1)	0.9954	0.9833	0.9856	0.9951	0.0001	0.0003	0.0017	0.0001
184			(.2)		0.9809	0.9735	0.9605	0.9803	0.0010	0.0009	0.0031	0.0010
185			(.5)		0.8169	0.8198	0.7639	0.8190	0.0354	0.0340	0.0484	0.0342
186			(1)		0.4549	0.4548	0.4734	0.4586	0.0906	0.0912	0.0942	0.0920
187			(2)		0.2188	0.2153	0.2357	0.2182	0.0501	0.0498	0.0580	0.0497
188			(5)		0.0358	0.0420	0.0633	0.0361	0.0055	0.0039	0.0121	0.0048
189			(10)		0.0054	0.0210	0.0129	0.0060	0.0001	0.0006	0.0005	0.0001
190	7	5	U(0,.1)	U(0,.1)	0.5394	0.5388	0.5308	0.5374	0.0609	0.0600	0.0539	0.0604
191			(0,.2)	(0,.2)	0.5652	0.5656	0.5574	0.5646	0.0870	0.0853	0.0817	0.0874
192			(0,.5)	(0,.5)	0.4909	0.4905	0.4856	0.4918	0.0793	0.0785	0.0742	0.0808
193			(0,1)	(0,1)	0.4868	0.4869	0.4873	0.4875	0.0822	0.0817	0.0845	0.0828
194			(0,2)	(0,2)	0.4347	0.4353	0.4378	0.4344	0.0922	0.0914	0.0888	0.0936
195			(0,5)	(0,5)	0.4923	0.4924	0.4975	0.4922	0.1056	0.1040	0.0972	0.1054
196			(0,10)	(0,10)	0.4997	0.4994	0.4906	0.5023	0.0907	0.0899	0.0854	0.0903
197			(0,.1)	(0,1)	0.9932	0.9942	0.9766	0.9934	0.0003	0.0001	0.0031	0.0002
198			(0,.2)		0.9890	0.9916	0.9701	0.9886	0.0006	0.0004	0.0031	0.0007
199			(0,.5)		0.8242	0.8250	0.7801	0.8224	0.0577	0.0584	0.0659	0.0580
200			(0,1)		0.4344	0.4342	0.4357	0.4287	0.0821	0.0795	0.0741	0.0822
201			(0,2)		0.1462	0.1477	0.2032	0.1478	0.0331	0.0329	0.0426	0.0342

202			(0,5)		0.0180	0.0170	0.0365	0.0192	0.0017	0.0008	0.0072	0.0018
203			(0,10)		0.0045	0.0063	0.0083	0.0054	0.0000	0.0001	0.0003	0.0000
204	7	6	(0,.1)	(0,.1)	0.5890	0.5897	0.5851	0.5897	0.0787	0.0784	0.0719	0.0778
205			(0,.2)	(0,.2)	0.5270	0.5263	0.5189	0.5270	0.0855	0.0856	0.0797	0.0844
206			(0,.5)	(0,.5)	0.5398	0.5394	0.5299	0.5390	0.0968	0.0963	0.0884	0.0971
207			(0,1)	(0,1)	0.4073	0.4069	0.4071	0.4070	0.0787	0.0776	0.0721	0.0784
208			(0,2)	(0,2)	0.4974	0.4971	0.4938	0.4961	0.0699	0.0690	0.0701	0.0704
209			(0,5)	(0,5)	0.5199	0.5180	0.5254	0.5213	0.0856	0.0848	0.0726	0.0850
210			(0,10)	(0,10)	0.4888	0.4890	0.4893	0.4882	0.0769	0.0759	0.0687	0.0781
211			(0,.1)	(0,1)	0.9977	0.9956	0.9918	0.9977	0.0000	0.0001	0.0002	0.0000
212			(0,.2)		0.9891	0.9912	0.9695	0.9890	0.0007	0.0004	0.0034	0.0007
213			(0,.5)		0.9205	0.9211	0.8651	0.9200	0.0077	0.0082	0.0226	0.0078
214			(0,1)		0.5051	0.5035	0.5181	0.5030	0.0844	0.0830	0.0696	0.0859
215			(0,2)		0.0919	0.0906	0.1443	0.0926	0.0107	0.0106	0.0197	0.0110
216			(0,5)		0.0223	0.0215	0.0504	0.0240	0.0016	0.0013	0.0099	0.0017
217			(0,10)		0.0031	0.0063	0.0066	0.0037	0.0000	0.0001	0.0001	0.0000
218	7	7	(0,.1)	(0,.1)	0.4566	0.4567	0.4715	0.4586	0.0829	0.0821	0.0762	0.0827
219			(0,.2)	(0,.2)	0.5440	0.5451	0.5551	0.5432	0.0920	0.0913	0.0890	0.0923
220			(0,.5)	(0,.5)	0.5532	0.5522	0.5490	0.5569	0.0747	0.0737	0.0731	0.0744
221			(0,1)	(0,1)	0.5268	0.5268	0.5073	0.5225	0.0817	0.0811	0.0720	0.0823
222			(0,2)	(0,2)	0.4588	0.4588	0.4525	0.4621	0.0878	0.0868	0.0839	0.0874
223			(0,5)	(0,5)	0.5453	0.5446	0.5606	0.5457	0.0795	0.0784	0.0659	0.0794
224			(0,10)	(0,10)	0.6160	0.6155	0.6033	0.6176	0.0799	0.0792	0.0661	0.0802
225			(0,.1)	(0,1)	0.9989	0.9980	0.9942	0.9989	0.0000	0.0000	0.0002	0.0000
226			(0,.2)		0.9966	0.9954	0.9913	0.9965	0.0000	0.0000	0.0002	0.0000
227			(0,.5)		0.9269	0.9284	0.8888	0.9266	0.0151	0.0149	0.0245	0.0155
228			(0,1)		0.4797	0.4795	0.4698	0.4769	0.0690	0.0684	0.0601	0.0681
229			(0,2)		0.0463	0.0443	0.0841	0.0472	0.0033	0.0030	0.0111	0.0034
230			(0,5)		0.0085	0.0082	0.0332	0.0101	0.0003	0.0003	0.0064	0.0004
231			(0,10)		0.0023	0.0034	0.0086	0.0030	0.0000	0.0000	0.0002	0.0000
232	7	5	GAMA(.1,1)	GAMA(.1,1)	0.4670	0.4752	0.3191	0.4659	0.0741	0.0820	0.0598	0.0738
233			(.2,1)	(.2,1)	0.5300	0.5162	0.5022	0.5300	0.0710	0.0835	0.0708	0.0714
234			(.5,1)	(.5,1)	0.5216	0.5137	0.5257	0.5220	0.0939	0.0958	0.0869	0.0932
235			(1,1)	(1,1)	0.5268	0.5254	0.5249	0.5289	0.0881	0.0920	0.0877	0.0878
236			(2,1)	(2,1)	0.5478	0.5436	0.5648	0.5470	0.0663	0.0684	0.0558	0.0657
237			(5,1)	(5,1)	0.4394	0.4379	0.4365	0.4390	0.0724	0.0725	0.0588	0.0742
238			(10,1)	(10,1)	0.5203	0.5188	0.5221	0.5188	0.0799	0.0820	0.0669	0.0799
239			(1,.1)	(1,.1)	0.4293	0.4198	0.4499	0.4287	0.0701	0.0724	0.0601	0.0701
240			(1,.2)	(1,.2)	0.4967	0.4841	0.5110	0.4963	0.0767	0.0811	0.0738	0.0765
241			(1,.5)	(1,.5)	0.5476	0.5507	0.5628	0.5462	0.0905	0.0926	0.0868	0.0896
242			(1,1)	(1,1)	0.4841	0.4799	0.4437	0.4836	0.0769	0.0796	0.0714	0.0779
243			(1,2)	(1,2)	0.4789	0.4762	0.4825	0.4787	0.0903	0.0900	0.0820	0.0907
244			(1,5)	(1,5)	0.5040	0.4973	0.5077	0.5036	0.0866	0.0902	0.0780	0.0863
245			(1,10)	(1,10)	0.5367	0.5309	0.5355	0.5374	0.0772	0.0830	0.0567	0.0765
246	7	6	(.1,1)	(.1,1)	0.5053	0.4913	0.3509	0.5053	0.0877	0.0954	0.0782	0.0878
247			(.2,1)	(.2,1)	0.4965	0.4966	0.4818	0.4941	0.0888	0.0990	0.0776	0.0903
248			(.5,1)	(.5,1)	0.4929	0.4883	0.4819	0.4914	0.1073	0.1135	0.0765	0.1065
249			(1,1)	(1,1)	0.4827	0.4795	0.4560	0.4838	0.0798	0.0823	0.0722	0.0810
250			(2,1)	(2,1)	0.5268	0.5220	0.5391	0.5283	0.0684	0.0711	0.0580	0.0679
251			(5,1)	(5,1)	0.5061	0.5047	0.5095	0.5068	0.0977	0.0985	0.0941	0.0977
252			(10,1)	(10,1)	0.4641	0.4614	0.4614	0.4650	0.0814	0.0817	0.0767	0.0816
253			(1,.1)	(1,.1)	0.5197	0.5193	0.5098	0.5189	0.0908	0.0937	0.0883	0.0910
254			(1,.2)	(1,.2)	0.4861	0.4846	0.4776	0.4857	0.0648	0.0678	0.0570	0.0664
255			(1,.5)	(1,.5)	0.4933	0.4910	0.4859	0.4965	0.0697	0.0727	0.0543	0.0699
256			(1,1)	(1,1)	0.4855	0.4842	0.4929	0.4863	0.0714	0.0747	0.0607	0.0706
257			(1,2)	(1,2)	0.4348	0.4353	0.4340	0.4348	0.0842	0.0841	0.0769	0.0850
258			(1,5)	(1,5)	0.5072	0.5007	0.5089	0.5076	0.0822	0.0839	0.0707	0.0822
259			(1,10)	(1,10)	0.4830	0.4816	0.4564	0.4820	0.0753	0.0757	0.0720	0.0744
260	7	7	(.1,1)	(.1,1)	0.4933	0.4866	0.3389	0.4936	0.0870	0.0985	0.0610	0.0869
261			(.2,1)	(.2,1)	0.5133	0.5064	0.5121	0.5157	0.0909	0.0954	0.0803	0.0913

262			(.5,1)	(.5,1)	0.5745	0.5836	0.5470	0.5750	0.0631	0.0636	0.0521	0.0620
263			(1,1)	(1,1)	0.4941	0.4929	0.4705	0.4959	0.0899	0.0910	0.0734	0.0892
264			(2,1)	(2,1)	0.4787	0.4791	0.4665	0.4758	0.0916	0.0921	0.0826	0.0914
265			(5,1)	(5,1)	0.5197	0.5210	0.5156	0.5190	0.0709	0.0717	0.0640	0.0715
266			(10,1)	(10,1)	0.5060	0.5062	0.5156	0.5050	0.0818	0.0819	0.0755	0.0817
267			(1,.1)	(1,.1)	0.5299	0.5275	0.5674	0.5285	0.0736	0.0754	0.0658	0.0747
268			(1,.2)	(1,.2)	0.5463	0.5449	0.5462	0.5481	0.0929	0.0950	0.0906	0.0945
269			(1,.5)	(1,.5)	0.5253	0.5250	0.5073	0.5267	0.0839	0.0853	0.0893	0.0830
270			(1,1)	(1,1)	0.5075	0.5100	0.5250	0.5089	0.0685	0.0725	0.0645	0.0685
271			(1,2)	(1,2)	0.5121	0.5102	0.4902	0.5132	0.0527	0.0600	0.0473	0.0529
272			(1,5)	(1,5)	0.4706	0.4651	0.4442	0.4726	0.0921	0.0969	0.0806	0.0911
273			(1,10)	(1,10)	0.5364	0.5363	0.5494	0.5362	0.0817	0.0837	0.0623	0.0828
274	7	5	(.1,1)	(1,1)	0.9709	0.9657	0.9872	0.9709	0.0076	0.0072	0.0006	0.0070
275			(.2,1)		0.9553	0.9497	0.9701	0.9550	0.0108	0.0105	0.0067	0.0107
276			(.5,1)		0.7674	0.7640	0.7645	0.7664	0.0481	0.0499	0.0436	0.0479
277			(1,1)		0.5200	0.5139	0.4850	0.5206	0.0664	0.0707	0.0502	0.0654
278			(2,1)		0.1032	0.1043	0.1205	0.1056	0.0194	0.0184	0.0246	0.0204
279			(5,1)		0.0047	0.0055	0.0057	0.0057	0.0001	0.0001	0.0002	0.0001
280			(10,1)		0.0013	0.0002	0.0014	0.0020	0.0000	0.0000	0.0000	0.0000
281			(1,.1)	(1,1)	0.9867	0.9814	0.9711	0.9867	0.0008	0.0006	0.0029	0.0007
282			(1,.2)		0.9501	0.9472	0.9206	0.9498	0.0141	0.0129	0.0216	0.0144
283			(1,.5)		0.7965	0.7979	0.7656	0.7967	0.0507	0.0530	0.0551	0.0489
284			(1,1)		0.4269	0.4187	0.4360	0.4241	0.0712	0.0737	0.0597	0.0705
285			(1,2)		0.2524	0.2503	0.3001	0.2513	0.0539	0.0494	0.0639	0.0524
286			(1,5)		0.0488	0.0649	0.0854	0.0501	0.0032	0.0028	0.0115	0.0034
287			(1,10)		0.0157	0.0347	0.0248	0.0159	0.0012	0.0014	0.0026	0.0011
288	7	6	(.1,1)	(1,1)	0.9796	0.9743	0.9920	0.9786	0.0026	0.0022	0.0002	0.0028
289			(.2,1)		0.9160	0.9118	0.9598	0.9133	0.0185	0.0179	0.0053	0.0198
290			(.5,1)		0.8175	0.8199	0.8242	0.8133	0.0352	0.0340	0.0361	0.0369
291			(1,1)		0.4448	0.4435	0.4794	0.4458	0.0749	0.0777	0.0751	0.0757
292			(2,1)		0.1683	0.1701	0.1544	0.1695	0.0553	0.0543	0.0436	0.0556
293			(5,1)		0.0020	0.0021	0.0027	0.0031	0.0000	0.0000	0.0000	0.0000
294			(10,1)		0.0006	0.0000	0.0006	0.0013	0.0000	0.0000	0.0000	0.0000
295			(1,.1)	(1,1)	0.9867	0.9771	0.9703	0.9873	0.0009	0.0008	0.0062	0.0008
296			(1,.2)		0.9550	0.9552	0.9139	0.9546	0.0060	0.0042	0.0235	0.0059
297			(1,.5)		0.8074	0.8170	0.7682	0.8032	0.0422	0.0417	0.0467	0.0427
298			(1,1)		0.5351	0.5367	0.5215	0.5343	0.0742	0.0761	0.0660	0.0741
299			(1,2)		0.1849	0.1816	0.2270	0.1842	0.0448	0.0431	0.0537	0.0445
300			(1,5)		0.0402	0.0488	0.0697	0.0414	0.0037	0.0032	0.0100	0.0038
301			(1,10)		0.0167	0.0257	0.0288	0.0172	0.0021	0.0012	0.0062	0.0021
302	7	7	(.1,1)	(1,1)	0.9916	0.9802	0.9947	0.9915	0.0004	0.0004	0.0001	0.0004
303			(.2,1)		0.9337	0.9261	0.9607	0.9352	0.0134	0.0133	0.0050	0.0129
304			(.5,1)		0.8345	0.8315	0.8636	0.8350	0.0366	0.0385	0.0242	0.0357
305			(1,1)		0.5059	0.5025	0.5260	0.5084	0.0850	0.0869	0.0731	0.0859
306			(2,1)		0.1076	0.1094	0.1223	0.1074	0.0203	0.0212	0.0241	0.0200
307			(5,1)		0.0016	0.0019	0.0033	0.0027	0.0000	0.0000	0.0002	0.0000
308			(10,1)		0.0003	0.0000	0.0003	0.0012	0.0000	0.0000	0.0000	0.0000
309			(1,.1)	(1,1)	0.9950	0.9840	0.9900	0.9949	0.0001	0.0002	0.0003	0.0001
310			(1,.2)		0.9522	0.9430	0.9261	0.9527	0.0192	0.0172	0.0264	0.0189
311			(1,.5)		0.7871	0.7936	0.7505	0.7876	0.0578	0.0573	0.0615	0.0567
312			(1,1)		0.5685	0.5704	0.5472	0.5684	0.0752	0.0767	0.0725	0.0755
313			(1,2)		0.1434	0.1427	0.1651	0.1456	0.0184	0.0173	0.0213	0.0193
314			(1,5)		0.0340	0.0400	0.0650	0.0343	0.0061	0.0054	0.0166	0.0063
315			(1,10)		0.0062	0.0188	0.0143	0.0074	0.0001	0.0005	0.0007	0.0001
316	7	5	WEIB(.1,1)	WEIB(.1,1)	0.4484	0.4321	0.3218	0.4481	0.0772	0.0763	0.0758	0.0783
317			(.2,1)	(.2,1)	0.5664	0.5443	0.5472	0.5638	0.0900	0.0794	0.0748	0.0904
318			(.5,1)	(.5,1)	0.5442	0.4875	0.5627	0.5421	0.0790	0.0734	0.0707	0.0787
319			(1,1)	(1,1)	0.4639	0.4582	0.4486	0.4630	0.0742	0.0656	0.0717	0.0741
320			(2,1)	(2,1)	0.5295	0.5186	0.5185	0.5282	0.0784	0.0614	0.0694	0.0784
321			(5,1)	(5,1)	0.4819	0.4914	0.5000	0.4791	0.1019	0.0604	0.0958	0.1016
322			(10,1)	(10,1)	0.4791	0.4851	0.4631	0.4779	0.0890	0.0544	0.0814	0.0884

323			(1,.1)	(1,.1)	0.5106	0.4936	0.5301	0.5131	0.0907	0.0785	0.0776	0.0902
324			(1,.2)	(1,.2)	0.5885	0.5711	0.5638	0.5909	0.0574	0.0580	0.0461	0.0577
325			(1,.5)	(1,.5)	0.5710	0.5194	0.5402	0.5711	0.0682	0.0767	0.0591	0.0675
326			(1,1)	(1,1)	0.4389	0.4143	0.4276	0.4413	0.1040	0.0699	0.0937	0.1030
327			(1,2)	(1,2)	0.5267	0.5111	0.5481	0.5266	0.0833	0.0760	0.0592	0.0839
328			(1,5)	(1,5)	0.4728	0.5012	0.4409	0.4728	0.0697	0.0649	0.0605	0.0702
329			(1,10)	(1,10)	0.4598	0.4764	0.4837	0.4608	0.0969	0.0582	0.0783	0.0973
330			(.1,1)	(1,1)	0.2161	0.3218	0.5393	0.2155	0.0380	0.0413	0.0649	0.0379
331			(.2,1)		0.3730	0.3709	0.6634	0.3715	0.0654	0.0625	0.0557	0.0646
332			(.5,1)		0.4187	0.4209	0.5633	0.4213	0.0816	0.0678	0.0756	0.0822
333			(1,1)		0.5075	0.5016	0.5107	0.5061	0.0902	0.0718	0.0797	0.0899
334			(2,1)		0.5423	0.5457	0.4507	0.5441	0.1049	0.0897	0.0860	0.1053
335			(5,1)		0.5074	0.5007	0.3726	0.5088	0.0832	0.0848	0.0779	0.0842
336			(10,1)		0.3990	0.3529	0.3106	0.4003	0.0894	0.0888	0.0555	0.0897
337			(1,.1)	(1,1)	0.5296	0.4941	0.4884	0.5295	0.0926	0.0840	0.0731	0.0945
338			(1,.2)		0.5991	0.5565	0.5859	0.5981	0.0712	0.0607	0.0608	0.0706
339			(1,.5)		0.5476	0.4986	0.5564	0.5485	0.0906	0.0681	0.0742	0.0901
340			(1,1)		0.5129	0.5764	0.5385	0.5125	0.1013	0.0710	0.0932	0.1008
341			(1,2)		0.4760	0.5013	0.4848	0.4751	0.0816	0.0696	0.0719	0.0816
342			(1,5)		0.5026	0.5045	0.4953	0.5054	0.0697	0.0620	0.0597	0.0689
343			(1,10)		0.5432	0.5664	0.5246	0.5455	0.0784	0.0497	0.0740	0.0790
344	7	6	(.1,1)	(.1,1)	0.5133	0.5542	0.4034	0.5139	0.0713	0.0906	0.0669	0.0707
345			(.2,1)	(.2,1)	0.4548	0.4866	0.3746	0.4545	0.0848	0.1025	0.0765	0.0857
346			(.5,1)	(.5,1)	0.4441	0.4585	0.4690	0.4418	0.0778	0.0844	0.0531	0.0777
347			(1,1)	(1,1)	0.5378	0.5444	0.5272	0.5401	0.0947	0.0922	0.0929	0.0960
348			(2,1)	(2,1)	0.5261	0.5254	0.5070	0.5243	0.0700	0.0660	0.0663	0.0704
349			(5,1)	(5,1)	0.4799	0.4777	0.4882	0.4784	0.0737	0.0748	0.0660	0.0759
350			(10,1)	(10,1)	0.4740	0.4962	0.4790	0.4737	0.0778	0.0793	0.0768	0.0761
351			(1,.1)	(1,.1)	0.5718	0.5647	0.5617	0.5693	0.0776	0.0754	0.0685	0.0782
352			(1,.2)	(1,.2)	0.5986	0.5873	0.5558	0.5998	0.0779	0.0750	0.0692	0.0776
353			(1,.5)	(1,.5)	0.5096	0.5049	0.4970	0.5102	0.0687	0.0710	0.0519	0.0680
354			(1,1)	(1,1)	0.5106	0.5144	0.5095	0.5068	0.0735	0.0780	0.0721	0.0730
355			(1,2)	(1,2)	0.5231	0.5202	0.5357	0.5247	0.0696	0.0683	0.0561	0.0692
356			(1,5)	(1,5)	0.5111	0.5409	0.4859	0.5112	0.0926	0.0883	0.0901	0.0955
357			(1,10)	(1,10)	0.4707	0.4743	0.4635	0.4693	0.0887	0.0853	0.0869	0.0898
358			(.1,1)	(1,1)	0.2859	0.3117	0.6696	0.2850	0.0635	0.0498	0.0656	0.0634
359			(.2,1)		0.3193	0.2992	0.6486	0.3210	0.0718	0.0636	0.0702	0.0709
360			(.5,1)		0.4709	0.4491	0.6535	0.4703	0.0751	0.0818	0.0660	0.0760
361			(1,1)		0.5126	0.5138	0.4998	0.5121	0.0777	0.0779	0.0696	0.0785
362			(2,1)		0.5331	0.5038	0.4135	0.5360	0.0870	0.0906	0.0836	0.0865
363			(5,1)		0.5067	0.4763	0.4159	0.5086	0.1101	0.1131	0.0931	0.1094
364			(10,1)		0.4491	0.4275	0.3352	0.4531	0.1115	0.1052	0.1015	0.1119
365			(1,.1)	(1,1)	0.4658	0.4547	0.4630	0.4679	0.0804	0.0743	0.0656	0.0802
366			(1,.2)		0.5264	0.5177	0.4990	0.5276	0.1049	0.0943	0.0845	0.1034
367			(1,.5)		0.5169	0.5109	0.5267	0.5163	0.0960	0.0863	0.0857	0.0944
368			(1,1)		0.4399	0.4448	0.4601	0.4404	0.0998	0.0936	0.0892	0.0999
369			(1,2)		0.5856	0.5742	0.5549	0.5887	0.0856	0.0945	0.0664	0.0846
370			(1,5)		0.4698	0.4651	0.4835	0.4683	0.0923	0.0794	0.0783	0.0926
371			(1,10)		0.5471	0.5316	0.5289	0.5483	0.0744	0.0806	0.0626	0.0744
372	7	7	(.1,1)	(.1,1)	0.4893	0.4971	0.3720	0.4940	0.0919	0.1108	0.0756	0.0914
373			(.2,1)	(.2,1)	0.5011	0.5275	0.4435	0.5030	0.0749	0.0975	0.0636	0.0729
374			(.5,1)	(.5,1)	0.4717	0.4620	0.4834	0.4716	0.0775	0.0793	0.0739	0.0779
375			(1,1)	(1,1)	0.5106	0.5134	0.5128	0.5129	0.0933	0.0965	0.0831	0.0933
376			(2,1)	(2,1)	0.5394	0.5385	0.5429	0.5393	0.0743	0.0740	0.0648	0.0735
377			(5,1)	(5,1)	0.5565	0.5561	0.5570	0.5570	0.0838	0.0839	0.0772	0.0860
378			(10,1)	(10,1)	0.5620	0.5617	0.5606	0.5641	0.0658	0.0661	0.0633	0.0668
379			(1,.1)	(1,.1)	0.5237	0.5277	0.5103	0.5235	0.0881	0.0905	0.0828	0.0889
380			(1,.2)	(1,.2)	0.5056	0.5042	0.4912	0.5024	0.0774	0.0788	0.0708	0.0787
381			(1,.5)	(1,.5)	0.5224	0.5242	0.5518	0.5235	0.0884	0.0912	0.0771	0.0874
382			(1,1)	(1,1)	0.4471	0.4422	0.4513	0.4457	0.0838	0.0858	0.0755	0.0844
383			(1,2)	(1,2)	0.4699	0.4722	0.4689	0.4714	0.0793	0.0818	0.0758	0.0802

384			(1,5)	(1,5)	0.5592	0.5566	0.5502	0.5641	0.0872	0.0901	0.0777	0.0872
385			(1,10)	(1,10)	0.5675	0.5703	0.5844	0.5700	0.0756	0.0786	0.0818	0.0767
386			(.1,1)	(1,1)	0.2252	0.1914	0.6484	0.2287	0.0465	0.0266	0.0759	0.0480
387			(.2,1)		0.3004	0.2210	0.6526	0.3012	0.0630	0.0553	0.0737	0.0625
388			(.5,1)		0.4448	0.4157	0.6012	0.4458	0.1116	0.1185	0.1006	0.1118
389			(1,1)		0.4732	0.4729	0.4679	0.4736	0.0904	0.0927	0.0796	0.0913
390			(2,1)		0.5786	0.5903	0.4503	0.5799	0.0725	0.0757	0.0767	0.0734
391			(5,1)		0.4767	0.4887	0.3242	0.4761	0.0928	0.0993	0.0715	0.0931
392			(10,1)		0.3946	0.3993	0.2509	0.3954	0.0928	0.0997	0.0573	0.0929
393			(1,.1)	(1,1)	0.4881	0.4871	0.4984	0.4874	0.1032	0.1022	0.0854	0.1036
394			(1,.2)		0.4189	0.4170	0.4185	0.4190	0.0981	0.0998	0.0882	0.0977
395			(1,.5)		0.5652	0.5671	0.5632	0.5642	0.0974	0.0993	0.0803	0.0976
396			(1,1)		0.4962	0.4970	0.4736	0.4984	0.0760	0.0783	0.0750	0.0757
397			(1,2)		0.5160	0.5178	0.5132	0.5152	0.0990	0.1016	0.0853	0.1000
398			(1,5)		0.4575	0.4550	0.4625	0.4582	0.0824	0.0863	0.0757	0.0823
399			(1,10)		0.5044	0.5066	0.4747	0.5019	0.0830	0.0882	0.0674	0.0826
400	7	5	BETA(.1,1)	BETA(.1,1)	0.5185	0.5087	0.4488	0.5192	0.0939	0.0643	0.0916	0.0925
401			(.2,1)	(.2,1)	0.4594	0.4588	0.4147	0.4584	0.0892	0.0920	0.0747	0.0896
402			(.5,1)	(.5,1)	0.4215	0.4910	0.4373	0.4250	0.0821	0.0564	0.0707	0.0815
403			(1,1)	(1,1)	0.5530	0.5343	0.5514	0.5547	0.0802	0.0636	0.0717	0.0812
404			(2,1)	(2,1)	0.4684	0.4803	0.4815	0.4703	0.0796	0.0621	0.0694	0.0793
405			(5,1)	(5,1)	0.5394	0.5191	0.4999	0.5434	0.0934	0.0547	0.0958	0.0923
406			(10,1)	(10,1)	0.5429	0.5277	0.5368	0.5418	0.0824	0.0633	0.0813	0.0819
407			(1,.1)	(1,.1)	0.5125	0.4820	0.4170	0.5162	0.0856	0.0693	0.0766	0.0849
408			(1,.2)	(1,.2)	0.5310	0.5563	0.5364	0.5333	0.0688	0.0694	0.0486	0.0685
409			(1,.5)	(1,.5)	0.5301	0.5202	0.5402	0.5311	0.0715	0.0698	0.0591	0.0705
410			(1,1)	(1,1)	0.5648	0.5852	0.5724	0.5652	0.1017	0.0647	0.0937	0.1000
411			(1,2)	(1,2)	0.5373	0.5169	0.5481	0.5383	0.0794	0.0726	0.0592	0.0796
412			(1,5)	(1,5)	0.4702	0.5001	0.4409	0.4692	0.0684	0.0647	0.0605	0.0689
413			(1,10)	(1,10)	0.4599	0.4785	0.4829	0.4615	0.0968	0.0583	0.0789	0.0973
414	7	6	(.1,1)	(.1,1)	0.4838	0.4820	0.3705	0.4827	0.0879	0.0906	0.0858	0.0874
415			(.2,1)	(.2,1)	0.5777	0.5756	0.5411	0.5767	0.0915	0.0959	0.0839	0.0917
416			(.5,1)	(.5,1)	0.4562	0.4581	0.4728	0.4575	0.0710	0.0779	0.0723	0.0724
417			(1,1)	(1,1)	0.4741	0.4778	0.4757	0.4724	0.0844	0.0805	0.0721	0.0841
418			(2,1)	(2,1)	0.5581	0.5416	0.5442	0.5573	0.0781	0.0748	0.0769	0.0778
419			(5,1)	(5,1)	0.4619	0.4663	0.4907	0.4636	0.0874	0.0825	0.0751	0.0871
420			(10,1)	(10,1)	0.5173	0.5274	0.5157	0.5180	0.0637	0.0776	0.0614	0.0643
421			(1,.1)	(1,.1)	0.5156	0.5109	0.3460	0.5152	0.0807	0.0939	0.0633	0.0818
422			(1,.2)	(1,.2)	0.4298	0.4553	0.4137	0.4293	0.1157	0.1039	0.1039	0.1162
423			(1,.5)	(1,.5)	0.4818	0.4914	0.4878	0.4820	0.0814	0.0728	0.0750	0.0821
424			(1,1)	(1,1)	0.4633	0.4576	0.4544	0.4635	0.0886	0.0889	0.0764	0.0881
425			(1,2)	(1,2)	0.4854	0.4941	0.4800	0.4881	0.0773	0.0712	0.0682	0.0764
426			(1,5)	(1,5)	0.4968	0.5208	0.4936	0.4946	0.0841	0.0699	0.0824	0.0835
427			(1,10)	(1,10)	0.4198	0.4300	0.4222	0.4197	0.0856	0.0849	0.0743	0.0864
428	7	7	(.1,1)	(.1,1)	0.5434	0.5424	0.4062	0.5439	0.0777	0.0865	0.0710	0.0778
429			(.2,1)	(.2,1)	0.4898	0.4902	0.4340	0.4905	0.0856	0.0916	0.0662	0.0862
430			(.5,1)	(.5,1)	0.5407	0.5388	0.5564	0.5400	0.0837	0.0841	0.0756	0.0822
431			(1,1)	(1,1)	0.4878	0.4872	0.4950	0.4885	0.0593	0.0576	0.0620	0.0606
432			(2,1)	(2,1)	0.5748	0.5739	0.5676	0.5774	0.0704	0.0703	0.0644	0.0699
433			(5,1)	(5,1)	0.5321	0.5335	0.5311	0.5344	0.0913	0.0920	0.0905	0.0915
434			(10,1)	(10,1)	0.5519	0.5493	0.5372	0.5527	0.0907	0.0939	0.0879	0.0915
435			(1,.1)	(1,.1)	0.5175	0.5179	0.3557	0.5200	0.0821	0.0893	0.0509	0.0817
436			(1,.2)	(1,.2)	0.5036	0.4961	0.4797	0.5004	0.0647	0.0684	0.0568	0.0658
437			(1,.5)	(1,.5)	0.4761	0.4767	0.4765	0.4752	0.0795	0.0792	0.0720	0.0800
438			(1,1)	(1,1)	0.5272	0.5282	0.5266	0.5263	0.1035	0.1028	0.0942	0.1046
439			(1,2)	(1,2)	0.5288	0.5281	0.5159	0.5301	0.0849	0.0841	0.0808	0.0848
440			(1,5)	(1,5)	0.5285	0.5279	0.5143	0.5297	0.0852	0.0857	0.0757	0.0855
441			(1,10)	(1,10)	0.4391	0.4307	0.4691	0.4388	0.0788	0.0811	0.0659	0.0800
442	7	5	(.1,1)	(1,1)	0.9618	0.8972	0.9703	0.9616	0.0056	0.0149	0.0023	0.0061
443			(.2,1)		0.8734	0.7685	0.8987	0.8719	0.0372	0.0482	0.0197	0.0373

444			(.5,1)		0.6859	0.6754	0.6943	0.6871	0.0618	0.0422	0.0508	0.0617
445			(1,1)		0.5530	0.5343	0.5514	0.5547	0.0802	0.0636	0.0717	0.0812
446			(2,1)		0.2050	0.2767	0.2375	0.2067	0.0431	0.0356	0.0478	0.0432
447			(5,1)		0.0631	0.1284	0.1026	0.0616	0.0122	0.0277	0.0248	0.0116
448			(10,1)		0.0196	0.0770	0.0370	0.0207	0.0016	0.0124	0.0063	0.0016
449			(1,.1)	(1,1)	0.5125	0.4820	0.4170	0.5162	0.0856	0.0693	0.0766	0.0849
450			(1,.2)		0.5310	0.5563	0.5364	0.5333	0.0688	0.0694	0.0486	0.0685
451			(1,.5)		0.5301	0.5202	0.5402	0.5311	0.0715	0.0698	0.0591	0.0705
452			(1,1)		0.5648	0.5852	0.5724	0.5652	0.1017	0.0647	0.0937	0.1000
453			(1,2)		0.5373	0.5169	0.5481	0.5383	0.0794	0.0726	0.0592	0.0796
454			(1,5)		0.4702	0.5001	0.4409	0.4692	0.0684	0.0647	0.0605	0.0689
455			(1,10)		0.4599	0.4785	0.4829	0.4615	0.0968	0.0583	0.0789	0.0973
456	7	6	(.1,1)	(1,1)	0.9668	0.9493	0.9743	0.9654	0.0034	0.0056	0.0024	0.0037
457			(.2,1)		0.9408	0.9207	0.9495	0.9416	0.0139	0.0167	0.0102	0.0139
458			(.5,1)		0.7234	0.6846	0.7327	0.7216	0.0606	0.0663	0.0536	0.0600
459			(1,1)		0.4741	0.4778	0.4757	0.4724	0.0844	0.0805	0.0721	0.0841
460			(2,1)		0.2674	0.2943	0.3015	0.2684	0.0706	0.0687	0.0650	0.0712
461			(5,1)		0.0529	0.0746	0.0662	0.0532	0.0151	0.0191	0.0192	0.0151
462			(10,1)		0.0067	0.0210	0.0112	0.0074	0.0001	0.0006	0.0002	0.0001
463			(1,.1)	(1,1)	0.5156	0.5109	0.3460	0.5152	0.0807	0.0939	0.0633	0.0818
464			(1,.2)		0.4298	0.4553	0.4137	0.4293	0.1157	0.1039	0.1039	0.1162
465			(1,.5)		0.4818	0.4914	0.4878	0.4820	0.0814	0.0728	0.0750	0.0821
466			(1,1)		0.4633	0.4576	0.4544	0.4635	0.0886	0.0889	0.0764	0.0881
467			(1,2)		0.4854	0.4941	0.4800	0.4881	0.0773	0.0712	0.0682	0.0764
468			(1,5)		0.4968	0.5208	0.4936	0.4946	0.0841	0.0699	0.0824	0.0835
469			(1,10)		0.4198	0.4300	0.4222	0.4197	0.0856	0.0849	0.0743	0.0864
470	7	7	(.1,1)	(1,1)	0.9827	0.9829	0.9879	0.9825	0.0008	0.0008	0.0003	0.0008
471			(.2,1)		0.9299	0.9295	0.9376	0.9295	0.0105	0.0107	0.0095	0.0104
472			(.5,1)		0.7887	0.7881	0.7952	0.7871	0.0528	0.0525	0.0523	0.0537
473			(1,1)		0.4878	0.4872	0.4950	0.4885	0.0593	0.0576	0.0620	0.0606
474			(2,1)		0.2362	0.2366	0.2532	0.2390	0.0444	0.0441	0.0442	0.0436
475			(5,1)		0.0464	0.0458	0.0820	0.0481	0.0070	0.0071	0.0185	0.0073
476			(10,1)		0.0115	0.0112	0.0254	0.0124	0.0008	0.0005	0.0054	0.0007
477			(1,.1)		0.5175	0.5179	0.3557	0.5200	0.0821	0.0893	0.0509	0.0817
478			(1,.2)		0.5036	0.4961	0.4797	0.5004	0.0647	0.0684	0.0568	0.0658
479			(1,.5)		0.4761	0.4767	0.4765	0.4752	0.0795	0.0792	0.0720	0.0800
480			(1,1)		0.5272	0.5282	0.5266	0.5263	0.1035	0.1028	0.0942	0.1046
481			(1,2)		0.5288	0.5281	0.5159	0.5301	0.0849	0.0841	0.0808	0.0848
482			(1,5)		0.5285	0.5279	0.5143	0.5297	0.0852	0.0857	0.0757	0.0855
483			(1,10)		0.4391	0.4307	0.4691	0.4388	0.0788	0.0811	0.0659	0.0800
484	7	5	CHI(1)	CHI(1)	0.4570	0.4465	0.4705	0.4564	0.0756	0.0789	0.0671	0.0755
485			(2)	(2)	0.5609	0.5495	0.5673	0.5603	0.0821	0.0870	0.0743	0.0825
486			(5)	(5)	0.5465	0.5433	0.5418	0.5447	0.0750	0.0761	0.0651	0.0754
487			(10)	(10)	0.4986	0.4930	0.4926	0.4973	0.0743	0.0741	0.0678	0.0745
488			(1)	(1)	0.4876	0.4804	0.5131	0.4873	0.0957	0.0994	0.0782	0.0959
489			(2)		0.2116	0.2149	0.2089	0.2122	0.0648	0.0645	0.0487	0.0644
490			(5)		0.0228	0.0276	0.0259	0.0241	0.0023	0.0016	0.0018	0.0025
491			(10)		0.0018	0.0016	0.0022	0.0025	0.0000	0.0000	0.0000	0.0000
492	7	6	(1)	(1)	0.4992	0.4977	0.4943	0.4999	0.0784	0.0847	0.0654	0.0789
493			(2)	(2)	0.5253	0.5204	0.5240	0.5254	0.0931	0.0979	0.0817	0.0942
494			(5)	(5)	0.5241	0.5198	0.5329	0.5269	0.0941	0.0952	0.0910	0.0936
495			(10)	(10)	0.4936	0.4925	0.5105	0.4931	0.0732	0.0740	0.0660	0.0722
496			(1)	(1)	0.5700	0.5581	0.5430	0.5689	0.0815	0.0888	0.0757	0.0811
497			(2)		0.2864	0.2836	0.2541	0.2870	0.0488	0.0493	0.0371	0.0477
498			(5)		0.0219	0.0255	0.0182	0.0226	0.0024	0.0024	0.0015	0.0027
499			(10)		0.0012	0.0010	0.0014	0.0020	0.0000	0.0000	0.0000	0.0000
500	7	7	(1)	(1)	0.4906	0.4884	0.5021	0.4889	0.0842	0.0890	0.0832	0.0832
501			(2)	(2)	0.4995	0.4969	0.4960	0.5041	0.0871	0.0912	0.0733	0.0860
502			(5)	(5)	0.4454	0.4456	0.4568	0.4445	0.0782	0.0781	0.0774	0.0780

503			(10)	(10)	0.5141	0.5112	0.5314	0.5176	0.0933	0.0934	0.0754	0.0922
504			(1)	(1)	0.5428	0.5489	0.5677	0.5405	0.0697	0.0738	0.0747	0.0688
505			(2)		0.1850	0.1870	0.1651	0.1840	0.0460	0.0443	0.0324	0.0459
506			(5)		0.0090	0.0103	0.0065	0.0094	0.0012	0.0012	0.0002	0.0011
507			(10)		0.0006	0.0004	0.0006	0.0016	0.0000	0.0000	0.0000	0.0000
508	7	5	POIS(1)	POIS(1)	0.6204	0.5397	0.3303	0.6214	0.0914	0.0979	0.0695	0.0896
509			(2)	(2)	0.5112	0.4504	0.2965	0.5138	0.0897	0.0885	0.0690	0.0896
510			(5)	(5)	0.4805	0.4428	0.3328	0.4834	0.0822	0.0805	0.0594	0.0811
511			(10)	(10)	0.5735	0.5430	0.4785	0.5747	0.0812	0.0825	0.0675	0.0816
512			(1)	(1)	0.8838	0.8428	0.6405	0.8828	0.0247	0.0338	0.0682	0.0252
513			(2)		0.5776	0.5133	0.3505	0.5833	0.0856	0.0942	0.0884	0.0842
514			(5)		0.0518	0.0429	0.0269	0.0541	0.0143	0.0112	0.0058	0.0147
515			(10)		0.0019	0.0006	0.0016	0.0027	0.0000	0.0000	0.0000	0.0000
516	7	6	(1)	(1)	0.6185	0.5408	0.2839	0.6165	0.0772	0.0839	0.0667	0.0774
517			(2)	(2)	0.5720	0.5114	0.3380	0.5752	0.0717	0.0753	0.0628	0.0713
518			(5)	(5)	0.5191	0.4832	0.3811	0.5174	0.0731	0.0728	0.0605	0.0727
519			(10)	(10)	0.5803	0.5558	0.4794	0.5802	0.0915	0.0930	0.0793	0.0933
520			(1)	(1)	0.8882	0.8498	0.6774	0.8889	0.0240	0.0346	0.0706	0.0239
521			(2)		0.5356	0.4809	0.3242	0.5361	0.0846	0.0858	0.0699	0.0835
522			(5)		0.0292	0.0224	0.0139	0.0288	0.0017	0.0011	0.0006	0.0017
523			(10)		0.0013	0.0005	0.0009	0.0025	0.0000	0.0000	0.0000	0.0000
524	7	7	(1)	(1)	0.4915	0.4131	0.2063	0.4916	0.0911	0.0848	0.0566	0.0906
525			(2)	(2)	0.5179	0.4711	0.3212	0.5220	0.1130	0.1120	0.0800	0.1130
526			(5)	(5)	0.5986	0.5609	0.4546	0.6027	0.0709	0.0717	0.0623	0.0699
527			(10)	(10)	0.5951	0.5707	0.5032	0.5956	0.0912	0.0916	0.0783	0.0894
528			(1)	(1)	0.9080	0.8695	0.6762	0.9062	0.0147	0.0207	0.0545	0.0148
529			(2)		0.5636	0.5036	0.3110	0.5637	0.0708	0.0713	0.0525	0.0715
530			(5)		0.0186	0.0142	0.0107	0.0202	0.0010	0.0006	0.0004	0.0011
531			(10)		0.0004	0.0001	0.0004	0.0014	0.0000	0.0000	0.0000	0.0000
532	7	5	BIN(10,.1)	BIN(10,.1)	0.5763	0.4839	0.2782	0.5799	0.0927	0.0947	0.0706	0.0945
533			(10,.2)	(10,.2)	0.5663	0.5050	0.3276	0.5655	0.1092	0.1104	0.0732	0.1084
534			(10,.3)	(10,.3)	0.5948	0.5358	0.3776	0.5967	0.0767	0.0755	0.0607	0.0768
535			(10,.4)	(10,.4)	0.5423	0.4826	0.3482	0.5406	0.0724	0.0737	0.0690	0.0733
536			(10,.5)	(10,.5)	0.6085	0.5579	0.4197	0.6116	0.0817	0.0853	0.0760	0.0825
537			(10,.6)	(10,.6)	0.5207	0.4672	0.3284	0.5201	0.0983	0.0944	0.0655	0.0976
538			(10,.7)	(10,.7)	0.5510	0.4847	0.3335	0.5522	0.0707	0.0714	0.0622	0.0715
539			(10,.8)	(10,.8)	0.6245	0.5524	0.3591	0.6287	0.0748	0.0770	0.0702	0.0735
540			(10,.9)	(10,.9)	0.5659	0.4708	0.2640	0.5686	0.0866	0.0851	0.0553	0.0853
541			(5,.5)	(5,.5)	0.6134	0.5295	0.3247	0.6162	0.0671	0.0694	0.0618	0.0675
542			(10,.5)	(10,.5)	0.5683	0.5151	0.3750	0.5684	0.0803	0.0807	0.0618	0.0813
543			(20,.5)	(20,.5)	0.6092	0.5737	0.4526	0.6108	0.0674	0.0695	0.0605	0.0683
544			(50,.5)	(50,.5)	0.5353	0.5107	0.4505	0.5342	0.0825	0.0819	0.0695	0.0823
545			(100,.5)	(100,.5)	0.4912	0.4730	0.4175	0.4911	0.0794	0.0804	0.0654	0.0796
546	7	6	(10,.1)	(10,.1)	0.5299	0.4411	0.2380	0.5297	0.0827	0.0823	0.0569	0.0829
547			(10,.2)	(10,.2)	0.6547	0.5892	0.3907	0.6588	0.0673	0.0698	0.0583	0.0659
548			(10,.3)	(10,.3)	0.4970	0.4380	0.2578	0.4991	0.0789	0.0748	0.0407	0.0776
549			(10,.4)	(10,.4)	0.4861	0.4310	0.2933	0.4846	0.0817	0.0794	0.0612	0.0819
550			(10,.5)	(10,.5)	0.5371	0.4827	0.3497	0.5389	0.0652	0.0660	0.0490	0.0650
551			(10,.6)	(10,.6)	0.6099	0.5620	0.4157	0.6099	0.0953	0.0954	0.0853	0.0963
552			(10,.7)	(10,.7)	0.6105	0.5469	0.3622	0.6104	0.0693	0.0719	0.0597	0.0695
553			(10,.8)	(10,.8)	0.5879	0.5236	0.3409	0.5862	0.0756	0.0778	0.0642	0.0752
554			(10,.9)	(10,.9)	0.6219	0.5316	0.2675	0.6229	0.0628	0.0641	0.0425	0.0630
555			(5,.5)	(5,.5)	0.6532	0.5845	0.3875	0.6550	0.0690	0.0778	0.0709	0.0685
556			(10,.5)	(10,.5)	0.5016	0.4475	0.3142	0.4971	0.0809	0.0816	0.0653	0.0822
557			(20,.5)	(20,.5)	0.5865	0.5545	0.4440	0.5863	0.1005	0.0985	0.0841	0.1007
558			(50,.5)	(50,.5)	0.5816	0.5592	0.4933	0.5817	0.0876	0.0880	0.0769	0.0863
559			(100,.5)	(100,.5)	0.5388	0.5232	0.4927	0.5362	0.0926	0.0932	0.0876	0.0935

560	7	7	(10,.1)	(10,.1)	0.4986	0.4257	0.2067	0.5003	0.0957	0.0928	0.0441	0.0954
561			(10,.2)	(10,.2)	0.6077	0.5444	0.3357	0.6087	0.0778	0.0780	0.0458	0.0787
562			(10,.3)	(10,.3)	0.5699	0.5149	0.3634	0.5691	0.0833	0.0852	0.0812	0.0843
563			(10,.4)	(10,.4)	0.5125	0.4622	0.3185	0.5138	0.0813	0.0806	0.0635	0.0815
564			(10,.5)	(10,.5)	0.6209	0.5735	0.4085	0.6180	0.0813	0.0834	0.0765	0.0829
565			(10,.6)	(10,.6)	0.5317	0.4874	0.3652	0.5300	0.0976	0.1003	0.0934	0.0965
566			(10,.7)	(10,.7)	0.5732	0.5189	0.3388	0.5769	0.0760	0.0767	0.0607	0.0757
567			(10,.8)	(10,.8)	0.5588	0.5003	0.3367	0.5563	0.0853	0.0886	0.0731	0.0855
568			(10,.9)	(10,.9)	0.6147	0.5318	0.2786	0.6154	0.0839	0.0879	0.0665	0.0846
569			(5,.5)	(5,.5)	0.5356	0.4603	0.2550	0.5384	0.0686	0.0644	0.0462	0.0688
570			(10,.5)	(10,.5)	0.5494	0.4990	0.3530	0.5483	0.0779	0.0764	0.0640	0.0776
571			(20,.5)	(20,.5)	0.6008	0.5659	0.4478	0.5972	0.0872	0.0891	0.0724	0.0871
572			(50,.5)	(50,.5)	0.5862	0.5637	0.4801	0.5857	0.0940	0.0948	0.0873	0.0946
573			(100,.5)	(100,.5)	0.5149	0.4979	0.4454	0.5157	0.0869	0.0863	0.0773	0.0863
574	7	5	(50,.1)	(50,.5)	1.0000	1.0000	0.9986	1.0000	0.0000	0.0000	0.0000	0.0000
575			(50,.2)		1.0000	0.9999	0.9985	1.0000	0.0000	0.0000	0.0000	0.0000
576			(50,.3)		0.9996	0.9993	0.9972	0.9996	0.0000	0.0000	0.0000	0.0000
577			(50,.4)		0.9510	0.9452	0.9100	0.9508	0.0136	0.0148	0.0203	0.0140
578			(50,.5)		0.4830	0.4575	0.4198	0.4839	0.0705	0.0709	0.0672	0.0711
579			(50,.6)		0.0705	0.0607	0.0538	0.0731	0.0131	0.0113	0.0078	0.0136
580			(50,.7)		0.0022	0.0009	0.0019	0.0031	0.0000	0.0000	0.0000	0.0000
581			(50,.8)		0.0013	0.0000	0.0014	0.0023	0.0000	0.0000	0.0000	0.0000
582			(50,.9)		0.0013	0.0000	0.0014	0.0021	0.0000	0.0000	0.0000	0.0000
583			(10,.5)	(50,.5)	1.0000	1.0000	0.9986	1.0000	0.0000	0.0000	0.0000	0.0000
584			(20,.5)		1.0000	1.0000	0.9985	1.0000	0.0000	0.0000	0.0000	0.0000
585			(30,.5)		0.9997	0.9994	0.9973	0.9997	0.0000	0.0000	0.0000	0.0000
586			(40,.5)		0.9734	0.9682	0.9464	0.9724	0.0017	0.0023	0.0044	0.0019
587			(50,.5)		0.4821	0.4603	0.4029	0.4814	0.1019	0.1021	0.0822	0.1018
588			(60,.5)		0.1025	0.0918	0.0878	0.1032	0.0255	0.0222	0.0229	0.0259
589			(70,.5)		0.0060	0.0038	0.0053	0.0067	0.0001	0.0001	0.0001	0.0001
590			(80,.5)		0.0015	0.0002	0.0015	0.0025	0.0000	0.0000	0.0000	0.0000
591			(90,.5)		0.0013	0.0000	0.0014	0.0021	0.0000	0.0000	0.0000	0.0000
592			(100,.5)		0.0013	0.0000	0.0014	0.0024	0.0000	0.0000	0.0000	0.0000
593	7	6	(50,.1)	(50,.5)	1.0000	1.0000	0.9994	1.0000	0.0000	0.0000	0.0000	0.0000
594			(50,.2)		1.0000	1.0000	0.9993	1.0000	0.0000	0.0000	0.0000	0.0000
595			(50,.3)		0.9985	0.9985	0.9952	0.9986	0.0000	0.0000	0.0001	0.0000
596			(50,.4)		0.9535	0.9467	0.9185	0.9531	0.0092	0.0109	0.0158	0.0095
597			(50,.5)		0.5030	0.4817	0.4236	0.5055	0.0873	0.0878	0.0840	0.0863
598			(50,.6)		0.0461	0.0394	0.0356	0.0465	0.0093	0.0078	0.0068	0.0091
599			(50,.7)		0.0019	0.0008	0.0018	0.0028	0.0000	0.0000	0.0000	0.0000
600			(50,.8)		0.0006	0.0000	0.0006	0.0017	0.0000	0.0000	0.0000	0.0000
601			(50,.9)		0.0006	0.0000	0.0006	0.0014	0.0000	0.0000	0.0000	0.0000
602			(10,.5)	(50,.5)	1.0000	1.0000	0.9994	1.0000	0.0000	0.0000	0.0000	0.0000
603			(20,.5)		1.0000	1.0000	0.9994	1.0000	0.0000	0.0000	0.0000	0.0000
604			(30,.5)		0.9995	0.9994	0.9973	0.9996	0.0000	0.0000	0.0000	0.0000
605			(40,.5)		0.9675	0.9618	0.9313	0.9690	0.0031	0.0039	0.0108	0.0032
606			(50,.5)		0.5574	0.5325	0.4605	0.5564	0.0780	0.0790	0.0665	0.0790
607			(60,.5)		0.0687	0.0625	0.0550	0.0698	0.0193	0.0175	0.0116	0.0190
608			(70,.5)		0.0028	0.0016	0.0035	0.0036	0.0000	0.0000	0.0001	0.0000
609			(80,.5)		0.0006	0.0000	0.0006	0.0014	0.0000	0.0000	0.0000	0.0000
610			(90,.5)		0.0006	0.0000	0.0006	0.0014	0.0000	0.0000	0.0000	0.0000
611			(100,.5)		0.0006	0.0000	0.0006	0.0016	0.0000	0.0000	0.0000	0.0000
612	7	7	(50,.1)	(50,.5)	1.0000	1.0000	0.9997	1.0000	0.0000	0.0000	0.0000	0.0000
613			(50,.2)		1.0000	1.0000	0.9997	1.0000	0.0000	0.0000	0.0000	0.0000
614			(50,.3)		0.9996	0.9996	0.9979	0.9996	0.0000	0.0000	0.0000	0.0000
615			(50,.4)		0.9684	0.9641	0.9460	0.9686	0.0049	0.0059	0.0094	0.0045
616			(50,.5)		0.5172	0.4945	0.4364	0.5165	0.0830	0.0896	0.0829	0.0870
617			(50,.6)		0.0417	0.0358	0.0284	0.0429	0.0050	0.0040	0.0028	0.0052
618			(50,.7)		0.0006	0.0002	0.0006	0.0016	0.0000	0.0000	0.0000	0.0000
619			(50,.8)		0.0003	0.0000	0.0003	0.0013	0.0000	0.0000	0.0000	0.0000
620			(50,.9)		0.0003	0.0000	0.0003	0.0012	0.0000	0.0000	0.0000	0.0000
621			(10,.5)	(50,.5)	1.0000	1.0000	0.9997	1.0000	0.0000	0.0000	0.0000	0.0000

622			(20,.5)		1.0000	1.0000	0.9997	1.0000	0.0000	0.0000	0.0000	0.0000
623			(30,.5)		0.9998	0.9998	0.9990	0.9999	0.0000	0.0000	0.0000	0.0000
624			(40,.5)		0.9821	0.9787	0.9554	0.9822	0.0009	0.0012	0.0041	0.0010
625			(50,.5)		0.5702	0.5468	0.4816	0.5689	0.0758	0.0761	0.0667	0.0762
626			(60,.5)		0.0390	0.0344	0.0368	0.0399	0.0048	0.0040	0.0044	0.0045
627			(70,.5)		0.0018	0.0010	0.0019	0.0026	0.0000	0.0000	0.0000	0.0000
628			(80,.5)		0.0004	0.0001	0.0005	0.0016	0.0000	0.0000	0.0000	0.0000
629			(90,.5)		0.0003	0.0000	0.0003	0.0012	0.0000	0.0000	0.0000	0.0000
630			(100,.5)		0.0003	0.0000	0.0003	0.0012	0.0000	0.0000	0.0000	0.0000
631	7	5	GEOM(.1)	GEOM(.1)	0.4785	0.4681	0.4116	0.4798	0.0940	0.0949	0.0793	0.0927
632			(.2)	(.2)	0.5105	0.4738	0.4113	0.5101	0.0573	0.0579	0.0593	0.0571
633			(.3)	(.3)	0.5725	0.5288	0.3701	0.5764	0.0858	0.0912	0.0724	0.0860
634			(.4)	(.4)	0.6032	0.5468	0.3652	0.6044	0.0743	0.0849	0.0725	0.0752
635			(.5)	(.5)	0.5993	0.5207	0.2925	0.5992	0.0896	0.0907	0.0664	0.0908
636			(.6)	(.6)	0.5527	0.4440	0.1683	0.5544	0.0629	0.0675	0.0335	0.0618
637			(.7)	(.7)	0.6060	0.4554	0.1259	0.6068	0.0726	0.0796	0.0334	0.0704
638			(.8)	(.8)	0.6728	0.4654	0.0627	0.6723	0.0815	0.0712	0.0077	0.0809
639			(.9)	(.9)	0.7414	0.4233	0.0377	0.7435	0.0728	0.0747	0.0074	0.0715
640			(.1)	(.5)	0.0533	0.0699	0.0297	0.0540	0.0129	0.0127	0.0042	0.0135
641			(.2)		0.1359	0.1179	0.0736	0.1396	0.0260	0.0193	0.0156	0.0256
642			(.3)		0.2910	0.2437	0.1423	0.2931	0.0509	0.0444	0.0299	0.0512
643			(.4)		0.3952	0.3305	0.1651	0.3961	0.0773	0.0722	0.0387	0.0769
644			(.5)		0.6066	0.5230	0.2921	0.6063	0.0831	0.0978	0.0796	0.0840
645			(.6)		0.7414	0.6731	0.3698	0.7424	0.0603	0.0737	0.0688	0.0606
646			(.7)		0.8103	0.7152	0.3556	0.8093	0.0355	0.0619	0.0672	0.0355
647			(.8)		0.8872	0.8253	0.3933	0.8880	0.0410	0.0498	0.0815	0.0415
648			(.9)		0.9622	0.8782	0.4922	0.9607	0.0061	0.0286	0.1332	0.0065
649	7	6	(.1)	(.1)	0.5375	0.5268	0.4777	0.5373	0.0674	0.0702	0.0703	0.0669
650			(.2)	(.2)	0.4658	0.4403	0.3466	0.4658	0.0812	0.0830	0.0745	0.0824
651			(.3)	(.3)	0.6138	0.5748	0.4211	0.6140	0.0812	0.0862	0.0808	0.0806
652			(.4)	(.4)	0.5450	0.4860	0.2656	0.5475	0.0769	0.0796	0.0442	0.0768
653			(.5)	(.5)	0.4707	0.4089	0.1759	0.4654	0.0949	0.0928	0.0433	0.0950
654			(.6)	(.6)	0.6424	0.5504	0.2232	0.6419	0.0761	0.0873	0.0496	0.0753
655			(.7)	(.7)	0.5855	0.4457	0.1196	0.5848	0.0891	0.0868	0.0236	0.0889
656			(.8)	(.8)	0.7246	0.5471	0.0846	0.7248	0.0763	0.0960	0.0166	0.0758
657			(.9)	(.9)	0.7873	0.5023	0.0296	0.7878	0.0559	0.0834	0.0034	0.0562
658			(.1)	(.5)	0.0321	0.0383	0.0193	0.0347	0.0021	0.0016	0.0009	0.0024
659			(.2)		0.0899	0.0748	0.0458	0.0926	0.0134	0.0088	0.0076	0.0138
660			(.3)		0.1773	0.1428	0.0760	0.1773	0.0304	0.0215	0.0127	0.0297
661			(.4)		0.4204	0.3648	0.1742	0.4190	0.0855	0.0807	0.0444	0.0860
662			(.5)		0.5264	0.4543	0.2466	0.5272	0.0796	0.0864	0.0752	0.0797
663			(.6)		0.7452	0.6767	0.3563	0.7434	0.0696	0.0835	0.0929	0.0691
664			(.7)		0.8914	0.8376	0.4790	0.8923	0.0251	0.0314	0.0784	0.0242
665			(.8)		0.9076	0.8345	0.4230	0.9083	0.0356	0.0486	0.1208	0.0359
666			(.9)		0.9509	0.8954	0.4042	0.9512	0.0067	0.0125	0.0800	0.0070
667	7	7	(.1)	(.1)	0.5106	0.5027	0.4106	0.5117	0.0863	0.0862	0.0692	0.0855
668			(.2)	(.2)	0.5386	0.5181	0.3814	0.5413	0.0927	0.0918	0.0642	0.0930
669			(.3)	(.3)	0.5782	0.5479	0.3780	0.5777	0.0740	0.0796	0.0569	0.0737
670			(.4)	(.4)	0.5798	0.5300	0.2911	0.5798	0.0740	0.0803	0.0545	0.0742
671			(.5)	(.5)	0.5376	0.4728	0.1980	0.5348	0.0733	0.0711	0.0283	0.0743
672			(.6)	(.6)	0.5598	0.4811	0.1761	0.5605	0.0994	0.1034	0.0388	0.0994
673			(.7)	(.7)	0.6437	0.5192	0.1322	0.6414	0.0837	0.0908	0.0314	0.0831
674			(.8)	(.8)	0.6848	0.5058	0.0380	0.6843	0.0937	0.0909	0.0050	0.0953
675			(.9)	(.9)	0.7275	0.4516	0.0091	0.7284	0.1000	0.0783	0.0004	0.0990
676			(.1)	(.5)	0.0188	0.0216	0.0085	0.0192	0.0012	0.0007	0.0002	0.0011
677			(.2)		0.1155	0.0998	0.0470	0.1159	0.0289	0.0261	0.0097	0.0281
678			(.3)		0.2977	0.2514	0.1367	0.3011	0.0732	0.0618	0.0306	0.0738
679			(.4)		0.4276	0.3749	0.2098	0.4248	0.0914	0.0868	0.0610	0.0900
680			(.5)		0.6304	0.5766	0.2972	0.6311	0.0765	0.0867	0.0725	0.0756
681			(.6)		0.6713	0.5979	0.2518	0.6715	0.0709	0.0769	0.0486	0.0705
682			(.7)		0.8234	0.7575	0.3451	0.8237	0.0398	0.0490	0.0610	0.0401
683			(.8)		0.9030	0.8513	0.3891	0.9050	0.0210	0.0250	0.0792	0.0206
684			(.9)		0.9482	0.8829	0.4025	0.9477	0.0122	0.0250	0.0871	0.0126

APPENDIX C

TWO SAMPLE APPROXIMATE RANDOMIZATION TEST

NUMBER OF ITERATIONS: 50
SAMPLE DISTRIBUTIONS: N(0,1)

CASE	SAMPLE SIZES 1	SAMPLE SIZES 2	β	AVERAGES R	AVERAGES T	AVERAGES M	AVERAGES A	VARIANCES R	VARIANCES T	VARIANCES M	VARIANCES A
685	7	7	200	0.5288	0.5299	0.5154	0.5310	0.0756	0.0759	0.0767	0.0765
686			300	0.5066	0.5075	0.5112	0.5153	0.0899	0.0903	0.0896	0.0908
687			400	0.5790	0.5790	0.5874	0.5787	0.0732	0.0727	0.0673	0.0732
688			500	0.4520	0.4519	0.4674	0.4530	0.0903	0.0905	0.0797	0.0889
689			600	0.5009	0.5012	0.4856	0.5010	0.0973	0.0975	0.0788	0.0957
690			700	0.5863	0.5862	0.5809	0.5874	0.0907	0.0911	0.0849	0.0906
691			800	0.5394	0.5391	0.5293	0.5362	0.0857	0.0857	0.0726	0.0850
692			900	0.5405	0.5396	0.5445	0.5394	0.0734	0.0745	0.0522	0.0742
693			1000	0.4851	0.4866	0.4921	0.4856	0.0853	0.0854	0.0760	0.0863
694			1100	0.5447	0.5455	0.5424	0.5457	0.0975	0.0971	0.0870	0.0971
695			1200	0.4499	0.4503	0.4429	0.4486	0.0883	0.0885	0.0770	0.0884
696			1300	0.5088	0.5086	0.5220	0.5114	0.0785	0.0786	0.0685	0.0780
697			1400	0.4459	0.4455	0.4399	0.4472	0.0801	0.0807	0.0760	0.0800
698			1500	0.4595	0.4593	0.4589	0.4612	0.0872	0.0871	0.0754	0.0870
699			1600	0.5284	0.5282	0.5257	0.5298	0.0723	0.0722	0.0753	0.0723
700			1700	0.4909	0.4912	0.4808	0.4932	0.0915	0.0912	0.0799	0.0920
701			1800	0.4818	0.4813	0.4807	0.4794	0.0960	0.0960	0.0853	0.0962
702			1900	0.5321	0.5338	0.5349	0.5325	0.0889	0.0884	0.0842	0.0888
703			2000	0.5171	0.5178	0.4966	0.5196	0.0727	0.0723	0.0641	0.0728
704	8	7	200	0.5363	0.5372	0.5287	0.5338	0.0788	0.0791	0.0790	0.0808
705			300	0.5284	0.5281	0.5329	0.5366	0.0920	0.0918	0.0904	0.0924
706			400	0.5702	0.5702	0.5750	0.5709	0.0770	0.0769	0.0694	0.0781
707			500	0.4628	0.4633	0.4721	0.4614	0.0884	0.0884	0.0810	0.0884
708			600	0.4979	0.4983	0.4856	0.5014	0.0858	0.0860	0.0696	0.0866
709			700	0.5792	0.5791	0.5710	0.5800	0.0807	0.0809	0.0780	0.0816
710			800	0.5340	0.5340	0.5195	0.5331	0.0906	0.0907	0.0799	0.0893
711			900	0.5285	0.5278	0.5302	0.5291	0.0756	0.0764	0.0572	0.0754
712			1000	0.4782	0.4793	0.4953	0.4779	0.0855	0.0863	0.0777	0.0853
713			1100	0.5482	0.5490	0.5475	0.5506	0.0999	0.0998	0.0887	0.1005
714			1200	0.4591	0.4595	0.4390	0.4607	0.0898	0.0899	0.0767	0.0905
715			1300	0.5162	0.5162	0.5234	0.5179	0.0789	0.0790	0.0716	0.0790
716			1400	0.4482	0.4485	0.4451	0.4479	0.0816	0.0823	0.0774	0.0807
717			1500	0.4550	0.4548	0.4496	0.4579	0.0874	0.0873	0.0773	0.0881
718			1600	0.5188	0.5189	0.5121	0.5192	0.0660	0.0661	0.0680	0.0659
719			1700	0.5056	0.5066	0.4938	0.5084	0.0862	0.0863	0.0736	0.0865
720			1800	0.4684	0.4684	0.4662	0.4677	0.1003	0.1005	0.0922	0.1003
721			1900	0.5499	0.5506	0.5454	0.5502	0.0873	0.0868	0.0866	0.0878
722			2000	0.5068	0.5072	0.4838	0.5047	0.0695	0.0692	0.0602	0.0698
723	9	7	200	0.4733	0.4731	0.4856	0.4764	0.1062	0.1063	0.1001	0.1054
724			300	0.4457	0.4461	0.4678	0.4569	0.0715	0.0715	0.0681	0.0723
725			400	0.5221	0.5216	0.5430	0.5179	0.0750	0.0752	0.0680	0.0767
726			500	0.5444	0.5448	0.5281	0.5467	0.0945	0.0939	0.0903	0.0933
727			600	0.4557	0.4549	0.4542	0.4592	0.0927	0.0925	0.0836	0.0930
728			700	0.5268	0.5262	0.5247	0.5284	0.0863	0.0861	0.0765	0.0865
729			800	0.5643	0.5650	0.5526	0.5681	0.0751	0.0753	0.0718	0.0752
730			900	0.4534	0.4542	0.4681	0.4542	0.0711	0.0717	0.0693	0.0708
731			1000	0.4784	0.4776	0.4858	0.4778	0.0864	0.0864	0.0742	0.0860
732			1100	0.5376	0.5360	0.5382	0.5349	0.0933	0.0936	0.0864	0.0935
733			1200	0.5131	0.5133	0.5148	0.5125	0.0775	0.0774	0.0682	0.0770
734			1300	0.4451	0.4449	0.4479	0.4434	0.0816	0.0810	0.0797	0.0810
735			1400	0.5421	0.5416	0.5303	0.5426	0.0745	0.0748	0.0689	0.0750
736			1500	0.5479	0.5478	0.5536	0.5488	0.0788	0.0783	0.0677	0.0786

737	1600	0.4959	0.4953	0.4918	0.4969	0.0926	0.0927	0.0872	0.0930
738	1700	0.5967	0.5947	0.5938	0.5961	0.0649	0.0650	0.0612	0.0644
739	1800	0.4405	0.4397	0.4465	0.4422	0.0687	0.0688	0.0570	0.0682
740	1900	0.4997	0.4999	0.5060	0.4996	0.1004	0.1003	0.0911	0.1000
741	2000	0.4891	0.4897	0.4914	0.4900	0.0879	0.0878	0.0869	0.0875

APPENDIX D

ANOVA CHANGES IN SAMPLE SIZES

NUMBER OF ITERATIONS: 50
SAMPLE DISTRIBUTIONS: N(0,1)
APPROXIMATE RANDOMIZATION SAMPLE SIZE: 1000

	SAMPLE SIZES			AVERAGES				VARIANCES			
CASE	1	2	3	R	F	K	A	R	F	K	A
742	2	2	2	0.5773	0.5424	0.5470	0.5568	0.0865	0.0886	0.0891	0.0867
743	3	3	3	0.4421	0.4369	0.4540	0.4414	0.0876	0.0822	0.0903	0.0877
744	4	4	4	0.5151	0.5124	0.5089	0.5172	0.0846	0.0833	0.0728	0.0852
745	4	4	3	0.5334	0.5314	0.5477	0.5312	0.0801	0.0771	0.0766	0.0805
746	4	4	2	0.4449	0.4458	0.4751	0.4447	0.0763	0.0762	0.0847	0.0767
747	4	3	3	0.5126	0.5080	0.5152	0.5117	0.0856	0.0813	0.0859	0.0862
748	4	3	2	0.4477	0.4457	0.4631	0.4493	0.0866	0.0865	0.0888	0.0854

APPENDIX E

ANOVA DISTRIBUTIONAL CHANGES

NUMBER OF ITERATIONS: 50
APPROXIMATE RANDOMIZATION SAMPLE SIZE: 1000

	SAMPLE SIZES			SAMPLE DISTRIBUTIONS			AVERAGES				VARIANCES			
CASE	1	2	3	1	2	3	R	F	K	A	R	F	K	A
749	4	4	4	N(-10,1)	N(-10,1)	N(-10,1)	0.5441	0.5409	0.5429	0.5418	0.0789	0.0780	0.0832	0.0787
750				(-5,1)	(-5,1)	(-5,1)	0.4470	0.4480	0.4343	0.4418	0.1017	0.1039	0.0841	0.1007
751				(-2,1)	(-2,1)	(-2,1)	0.5044	0.5028	0.4994	0.5018	0.0754	0.0733	0.0671	0.0762
752				(-1,1)	(-1,1)	(-1,1)	0.5313	0.5298	0.5205	0.5340	0.0804	0.0809	0.0790	0.0799
753				(-.5,1)	(-.5,1)	(-.5,1)	0.5617	0.5631	0.5639	0.5619	0.0772	0.0773	0.0752	0.0766
754				(-.2,1)	(-.2,1)	(-.2,1)	0.5188	0.5209	0.5215	0.5217	0.0821	0.0824	0.0779	0.0819
755				(-.1,1)	(-.1,1)	(-.1,1)	0.4660	0.4688	0.4478	0.4674	0.0859	0.0834	0.0802	0.0845
756				(0,1)	(0,1)	(0,1)	0.5048	0.5041	0.4986	0.5045	0.0825	0.0831	0.0818	0.0842
757				(.1,1)	(.1,1)	(.1,1)	0.5151	0.5124	0.5089	0.5127	0.0846	0.0833	0.0728	0.0846
758				(.2,1)	(.2,1)	(.2,1)	0.5222	0.5222	0.5334	0.5225	0.0787	0.0778	0.0744	0.0787
759				(.5,1)	(.5,1)	(.5,1)	0.4844	0.4831	0.4897	0.4862	0.0886	0.0882	0.0766	0.0892
760				(1,1)	(1,1)	(1,1)	0.5636	0.5579	0.5232	0.5646	0.0850	0.0847	0.0744	0.0856
761				(2,1)	(2,1)	(2,1)	0.4731	0.4745	0.4735	0.4739	0.0733	0.0740	0.0677	0.0727
762				(5,1)	(5,1)	(5,1)	0.5429	0.5424	0.5489	0.5411	0.0830	0.0820	0.0845	0.0831
763				(10,1)	(10,1)	(10,1)	0.4356	0.4373	0.4546	0.4341	0.0970	0.0956	0.0997	0.0969
764				(0,.1)	(0,.1)	(0,.1)	0.5350	0.5335	0.5198	0.5345	0.0681	0.0690	0.0797	0.0690
765				(0,.2)	(0,.2)	(0,.2)	0.4658	0.4645	0.4513	0.4649	0.0714	0.0708	0.0656	0.0724
766				(0,.5)	(0,.5)	(0,.5)	0.5296	0.5280	0.5304	0.5325	0.0819	0.0817	0.0805	0.0804
767				(0,1)	(0,1)	(0,1)	0.4737	0.4752	0.4702	0.4745	0.0961	0.0963	0.0801	0.0962
768				(0,2)	(0,2)	(0,2)	0.5360	0.5336	0.5289	0.5388	0.0758	0.0758	0.0766	0.0755
769				(0,5)	(0,5)	(0,5)	0.5051	0.5046	0.5374	0.5036	0.0931	0.0934	0.0816	0.0929
770				(0,10)	(0,10)	(0,10)	0.4886	0.4890	0.4867	0.4902	0.0813	0.0831	0.0739	0.0805
771	3	3	3	(-10,1)	(-10,1)	(-10,1)	0.5075	0.5101	0.4854	0.5079	0.0734	0.0754	0.0583	0.0735
772				(-5,1)	(-5,1)	(-5,1)	0.4730	0.4749	0.4710	0.4749	0.0879	0.0875	0.0878	0.0890
773				(-2,1)	(-2,1)	(-2,1)	0.5031	0.4987	0.4989	0.5006	0.0702	0.0706	0.0656	0.0703
774				(-1,1)	(-1,1)	(-1,1)	0.4843	0.4796	0.4851	0.4830	0.0768	0.0784	0.0743	0.0764
775				(-.5,1)	(-.5,1)	(-.5,1)	0.5623	0.5615	0.5652	0.5624	0.0675	0.0673	0.0614	0.0676
776				(-.2,1)	(-.2,1)	(-.2,1)	0.5424	0.5433	0.5614	0.5433	0.0767	0.0767	0.0816	0.0767
777				(-.1,1)	(-.1,1)	(-.1,1)	0.4716	0.4746	0.4522	0.4703	0.0935	0.0921	0.0905	0.0934
778				(0,1)	(0,1)	(0,1)	0.5091	0.5150	0.5003	0.5105	0.0865	0.0894	0.0771	0.0864
779				(.1,1)	(.1,1)	(.1,1)	0.5151	0.5121	0.5095	0.5149	0.0968	0.0875	0.0883	0.0961
780				(.2,1)	(.2,1)	(.2,1)	0.5464	0.5369	0.5705	0.5465	0.0738	0.0741	0.0765	0.0734
781				(.5,1)	(.5,1)	(.5,1)	0.4750	0.4678	0.5083	0.4742	0.0860	0.0870	0.0801	0.0863
782				(1,1)	(1,1)	(1,1)	0.5383	0.5372	0.5223	0.5412	0.0802	0.0800	0.0732	0.0794
783				(2,1)	(2,1)	(2,1)	0.5069	0.5065	0.5071	0.5057	0.0799	0.0833	0.0780	0.0800
784				(5,1)	(5,1)	(5,1)	0.5479	0.5449	0.5406	0.5452	0.0935	0.0941	0.0858	0.0925
785				(10,1)	(10,1)	(10,1)	0.4765	0.4787	0.4876	0.4770	0.0853	0.0834	0.0855	0.0860
786				(0,.1)	(0,.1)	(0,.1)	0.5643	0.5618	0.5462	0.5642	0.0737	0.0764	0.0703	0.0743
787				(0,.2)	(0,.2)	(0,.2)	0.5514	0.5529	0.5418	0.5530	0.0812	0.0843	0.0700	0.0803
788				(0,.5)	(0,.5)	(0,.5)	0.5141	0.5175	0.5055	0.5128	0.0783	0.0738	0.0716	0.0778
789				(0,1)	(0,1)	(0,1)	0.3866	0.3797	0.4003	0.3857	0.0857	0.0819	0.0865	0.0861
790				(0,2)	(0,2)	(0,2)	0.5814	0.5855	0.5881	0.5807	0.0758	0.0772	0.0819	0.0745
791				(0,5)	(0,5)	(0,5)	0.4979	0.4987	0.5037	0.4955	0.0636	0.0632	0.0618	0.0642
792				(0,10)	(0,10)	(0,10)	0.5031	0.4999	0.4902	0.5030	0.0908	0.0944	0.0829	0.0906
793	2	2	2	(-10,1)	(-10,1)	(-10,1)	0.5187	0.4914	0.4761	0.5104	0.0839	0.0837	0.0891	0.0826
794				(-5,1)	(-5,1)	(-5,1)	0.5280	0.5093	0.4985	0.4730	0.0551	0.0599	0.0679	0.0567
795				(-2,1)	(-2,1)	(-2,1)	0.5627	0.5478	0.5220	0.5498	0.0911	0.0881	0.0885	0.0926
796				(-1,1)	(-1,1)	(-1,1)	0.4960	0.4593	0.4591	0.4948	0.0896	0.0937	0.0958	0.0914
797				(-.5,1)	(-.5,1)	(-.5,1)	0.5080	0.4864	0.4821	0.4917	0.0867	0.0889	0.0910	0.0881
798				(-.2,1)	(-.2,1)	(-.2,1)	0.5667	0.5331	0.5272	0.5475	0.0911	0.0949	0.0917	0.0963

799				(-.1,1)	(-.1,1)	(-.1,1)	0.5080	0.4773	0.4899	0.4918	0.0756	0.0755	0.0908	0.0785
800				(0,1)	(0,1)	(0,1)	0.5240	0.4708	0.5062	0.5026	0.0769	0.0785	0.0753	0.0776
801				(.1,1)	(.1,1)	(.1,1)	0.5280	0.4886	0.5099	0.5103	0.0910	0.0844	0.0869	0.0915
802				(.2,1)	(.2,1)	(.2,1)	0.5240	0.4865	0.4874	0.4990	0.0727	0.0662	0.0685	0.0741
803				(.5,1)	(.5,1)	(.5,1)	0.5120	0.4763	0.5042	0.5052	0.0975	0.0964	0.1056	0.0975
804				(1,1)	(1,1)	(1,1)	0.5867	0.5509	0.5641	0.5803	0.0929	0.0952	0.0979	0.0914
805				(2,1)	(2,1)	(2,1)	0.5373	0.4951	0.5150	0.5314	0.0855	0.0904	0.0941	0.0869
806				(5,1)	(5,1)	(5,1)	0.6133	0.5708	0.5747	0.5605	0.0713	0.0675	0.0705	0.0717
807				(10,1)	(10,1)	(10,1)	0.5040	0.4726	0.4652	0.4966	0.0833	0.0835	0.0966	0.0804
808				(0,.1)	(0,.1)	(0,.1)	0.5640	0.5289	0.5244	0.5468	0.0846	0.0854	0.0734	0.0866
809				(0,.2)	(0,.2)	(0,.2)	0.6000	0.5793	0.5710	0.5957	0.0849	0.0872	0.0911	0.0841
810				(0,.5)	(0,.5)	(0,.5)	0.5200	0.4955	0.4920	0.5029	0.0941	0.1034	0.0999	0.0928
811				(0,1)	(0,1)	(0,1)	0.5227	0.5110	0.4817	0.5052	0.0703	0.0715	0.0761	0.0676
812				(0,2)	(0,2)	(0,2)	0.4760	0.4497	0.4388	0.4658	0.0760	0.0866	0.0804	0.0764
813				(0,5)	(0,5)	(0,5)	0.5613	0.5387	0.5203	0.5459	0.0706	0.0701	0.0735	0.0693
814				(0,10)	(0,10)	(0,10)	0.6013	0.5526	0.5594	0.5782	0.0935	0.0814	0.0868	0.0945
815	4	4	4	(0,1)	(0,1)	(-10,1)	0.0034	0.0000	0.0064	0.0037	0.0000	0.0000	0.0000	0.0000
816						(-5,1)	0.0028	0.0002	0.0054	0.0032	0.0000	0.0000	0.0000	0.0000
817						(-2,1)	0.0553	0.0552	0.0656	0.0563	0.0059	0.0055	0.0096	0.0059
818						(-1,1)	0.2591	0.2582	0.2602	0.2590	0.0516	0.0514	0.0593	0.0512
819						(-.5,1)	0.4991	0.5016	0.5125	0.4965	0.0774	0.0785	0.0725	0.0754
820						(-.2,1)	0.5288	0.5313	0.5223	0.5319	0.0868	0.0861	0.0799	0.0861
821						(-.1,1)	0.4662	0.4676	0.4491	0.4652	0.0865	0.0838	0.0777	0.0852
822						(0,1)	0.5048	0.5041	0.4986	0.5045	0.0825	0.0831	0.0818	0.0842
823						(.1,1)	0.5083	0.5034	0.4952	0.5055	0.0841	0.0819	0.0761	0.0835
824						(.2,1)	0.5069	0.5050	0.4965	0.5072	0.0847	0.0835	0.0836	0.0851
825						(.5,1)	0.3951	0.3916	0.3937	0.3982	0.0889	0.0888	0.0736	0.0906
826						(1,1)	0.3289	0.3285	0.3135	0.3287	0.0766	0.0767	0.0685	0.0771
827						(2,1)	0.0547	0.0518	0.0629	0.0572	0.0095	0.0083	0.0136	0.0098
828						(5,1)	0.0033	0.0001	0.0063	0.0042	0.0000	0.0000	0.0000	0.0000
829						(10,1)	0.0030	0.0000	0.0058	0.0038	0.0000	0.0000	0.0000	0.0000
830				(0,1)	(0,1)	(0,.1)	0.5860	0.5764	0.5131	0.5864	0.0855	0.0848	0.0720	0.0860
831						(0,.2)	0.4869	0.4858	0.4581	0.4847	0.0914	0.0909	0.0763	0.0921
832						(0,.5)	0.5077	0.5024	0.5023	0.5115	0.0835	0.0824	0.0826	0.0831
833						(0,1)	0.4737	0.4752	0.4702	0.4745	0.0961	0.0963	0.0801	0.0962
834						(0,2)	0.5608	0.5556	0.5889	0.5653	0.0780	0.0750	0.0669	0.0761
835						(0,5)	0.4596	0.4435	0.4855	0.4608	0.1128	0.1041	0.0923	0.1129
836						(0,10)	0.4792	0.4716	0.4824	0.4803	0.1230	0.1118	0.0866	0.1236
837	3	3	3	(0,1)	(0,1)	(-10,1)	0.0196	0.0000	0.0283	0.0176	0.0001	0.0000	0.0001	0.0001
838						(-5,1)	0.0193	0.0032	0.0287	0.0187	0.0001	0.0000	0.0002	0.0001
839						(-2,1)	0.1069	0.1026	0.1152	0.1075	0.0140	0.0160	0.0214	0.0146
840						(-1,1)	0.2868	0.2874	0.2840	0.2850	0.0713	0.0719	0.0698	0.0701
841						(-.5,1)	0.5009	0.4992	0.5024	0.5016	0.0617	0.0656	0.0577	0.0629
842						(-.2,1)	0.5407	0.5477	0.5454	0.5407	0.0826	0.0822	0.0860	0.0830
843						(-.1,1)	0.4726	0.4755	0.4532	0.4710	0.0964	0.0951	0.0933	0.0963
844						(0,1)	0.5091	0.5150	0.5003	0.5105	0.0865	0.0894	0.0771	0.0864
845						(.1,1)	0.5116	0.5084	0.5058	0.5095	0.0932	0.0854	0.0835	0.0930
846						(.2,1)	0.5233	0.5108	0.5273	0.5245	0.0749	0.0750	0.0792	0.0751
847						(.5,1)	0.4242	0.4203	0.4353	0.4241	0.1108	0.1084	0.1113	0.1115
848						(1,1)	0.3741	0.3669	0.3542	0.3737	0.0819	0.0777	0.0782	0.0825
849						(2,1)	0.0913	0.0875	0.0963	0.0899	0.0123	0.0127	0.0168	0.0125
850						(5,1)	0.0202	0.0015	0.0299	0.0211	0.0001	0.0000	0.0002	0.0002
851						(10,1)	0.0189	0.0000	0.0281	0.0178	0.0001	0.0000	0.0002	0.0001
852				(0,1)	(0,1)	(0,.1)	0.5601	0.5534	0.5195	0.5598	0.0951	0.0881	0.0748	0.0950
853						(0,.2)	0.5285	0.5296	0.4999	0.5288	0.0814	0.0799	0.0696	0.0808
854						(0,.5)	0.5156	0.5073	0.5016	0.5141	0.0841	0.0777	0.0738	0.0830
855						(0,1)	0.3866	0.3797	0.4003	0.3857	0.0857	0.0819	0.0865	0.0861
856						(0,2)	0.6154	0.6081	0.6272	0.6155	0.0754	0.0730	0.0685	0.0756
857						(0,5)	0.4591	0.4430	0.4677	0.4578	0.1229	0.1083	0.0856	0.1226
858						(0,10)	0.5476	0.5400	0.5361	0.5464	0.1167	0.0997	0.0735	0.1163
859	2	2	2	(0,1)	(0,1)	(-10,1)	0.1347	0.0037	0.1299	0.0959	0.0034	0.0000	0.0049	0.0036
860						(-5,1)	0.1240	0.0295	0.1267	0.1011	0.0025	0.0009	0.0045	0.0030
861						(-2,1)	0.2880	0.2380	0.2910	0.2654	0.0456	0.0442	0.0515	0.0480

862						(-1,1)	0.4533	0.4196	0.4147	0.4406	0.0894	0.0878	0.0946	0.0913
863						(-.5,1)	0.4520	0.4277	0.4201	0.4250	0.0810	0.0836	0.0837	0.0806
864						(-.2,1)	0.5533	0.5340	0.5151	0.5302	0.0873	0.0934	0.0901	0.0881
865						(-.1,1)	0.5027	0.4714	0.4803	0.4837	0.0755	0.0714	0.0780	0.0785
866						(0,1)	0.5240	0.4708	0.5062	0.5026	0.0769	0.0785	0.0753	0.0776
867						(.1,1)	0.5293	0.4878	0.4989	0.5059	0.0908	0.0830	0.0833	0.0887
868						(.2,1)	0.5147	0.4774	0.4800	0.4896	0.0717	0.0619	0.0670	0.0730
869						(.5,1)	0.5480	0.5033	0.5298	0.5266	0.0964	0.0977	0.1038	0.0941
870						(1,1)	0.4240	0.3749	0.3976	0.4055	0.0649	0.0684	0.0662	0.0641
871						(2,1)	0.2733	0.2140	0.2571	0.2516	0.0488	0.0497	0.0460	0.0519
872						(5,1)	0.1493	0.0274	0.1525	0.1256	0.0028	0.0009	0.0035	0.0028
873						(10,1)	0.1240	0.0048	0.1192	0.0813	0.0029	0.0000	0.0050	0.0045
874				(0,1)	(0,1)	(0,.1)	0.5013	0.4448	0.4576	0.4799	0.1069	0.1021	0.0999	0.1100
875						(0,.2)	0.5587	0.5206	0.5167	0.5426	0.1008	0.0874	0.1054	0.1036
876						(0,.5)	0.5267	0.4955	0.5014	0.5050	0.0927	0.1020	0.0956	0.0901
877						(0,1)	0.5227	0.5110	0.4817	0.5052	0.0703	0.0715	0.0761	0.0676
878						(0,2)	0.4733	0.4293	0.4602	0.4562	0.0924	0.0920	0.1002	0.0910
879						(0,5)	0.5707	0.5130	0.5481	0.5497	0.1325	0.1080	0.1286	0.1328
880						(0,10)	0.4920	0.4245	0.4683	0.4599	0.1431	0.1120	0.1291	0.1446
881	4	3	3	(-10,1)	(-10,1)	(-10,1)	0.5568	0.5599	0.5380	0.5557	0.0893	0.0908	0.0701	0.0888
882				(-5,1)	(-5,1)	(-5,1)	0.4677	0.4676	0.4570	0.4650	0.0982	0.0993	0.0952	0.0969
883				(-2,1)	(-2,1)	(-2,1)	0.4536	0.4544	0.4619	0.4498	0.0651	0.0676	0.0677	0.0644
884				(-1,1)	(-1,1)	(-1,1)	0.5328	0.5331	0.5408	0.5332	0.0878	0.0887	0.0888	0.0868
885				(-.5,1)	(-.5,1)	(-.5,1)	0.5411	0.5400	0.5443	0.5442	0.0726	0.0746	0.0768	0.0727
886				(-.2,1)	(-.2,1)	(-.2,1)	0.5372	0.5410	0.5493	0.5351	0.0839	0.0843	0.0800	0.0845
887				(-.1,1)	(-.1,1)	(-.1,1)	0.4910	0.4989	0.4680	0.4911	0.0859	0.0825	0.0786	0.0856
888				(0,1)	(0,1)	(0,1)	0.5220	0.5203	0.5166	0.5249	0.0980	0.0992	0.0942	0.0968
889				(.1,1)	(.1,1)	(.1,1)	0.5126	0.5080	0.5152	0.5143	0.0856	0.0813	0.0859	0.0842
890				(.2,1)	(.2,1)	(.2,1)	0.5532	0.5422	0.5716	0.5544	0.0715	0.0685	0.0706	0.0719
891				(.5,1)	(.5,1)	(.5,1)	0.4566	0.4555	0.4773	0.4596	0.0757	0.0757	0.0629	0.0761
892				(1,1)	(1,1)	(1,1)	0.5338	0.5341	0.5197	0.5367	0.0792	0.0773	0.0750	0.0789
893				(2,1)	(2,1)	(2,1)	0.5039	0.5066	0.5015	0.5051	0.0839	0.0842	0.0813	0.0844
894				(5,1)	(5,1)	(5,1)	0.5499	0.5493	0.5359	0.5518	0.0764	0.0782	0.0671	0.0748
895				(10,1)	(10,1)	(10,1)	0.5080	0.5069	0.5007	0.5052	0.0921	0.0893	0.0852	0.0927
896				(0,.1)	(0,.1)	(0,.1)	0.5544	0.5524	0.5411	0.5536	0.0731	0.0747	0.0768	0.0743
897				(0,.2)	(0,.2)	(0,.2)	0.5236	0.5231	0.5319	0.5284	0.0808	0.0829	0.0687	0.0799
898				(0,.5)	(0,.5)	(0,.5)	0.5328	0.5304	0.5193	0.5347	0.0820	0.0811	0.0732	0.0813
899				(0,1)	(0,1)	(0,1)	0.4305	0.4288	0.4390	0.4316	0.0845	0.0847	0.0851	0.0843
900				(0,2)	(0,2)	(0,2)	0.5720	0.5745	0.5802	0.5753	0.0865	0.0861	0.0869	0.0861
901				(0,5)	(0,5)	(0,5)	0.4968	0.4973	0.5127	0.4984	0.0705	0.0698	0.0650	0.0705
902	4	3	2	(0,10)	(0,10)	(0,10)	0.4987	0.4985	0.4960	0.4999	0.0804	0.0829	0.0766	0.0804
903				(-10,1)	(-10,1)	(-10,1)	0.5146	0.5167	0.5181	0.5157	0.0858	0.0883	0.0862	0.0861
904				(-5,1)	(-5,1)	(-5,1)	0.5444	0.5459	0.5286	0.5431	0.0813	0.0794	0.0845	0.0829
905				(-2,1)	(-2,1)	(-2,1)	0.4677	0.4705	0.4514	0.4658	0.0807	0.0840	0.0717	0.0820
906				(-1,1)	(-1,1)	(-1,1)	0.4298	0.4300	0.4093	0.4328	0.0802	0.0815	0.0731	0.0787
907				(-.5,1)	(-.5,1)	(-.5,1)	0.5091	0.5095	0.5179	0.5105	0.0868	0.0870	0.0901	0.0872
908				(-.2,1)	(-.2,1)	(-.2,1)	0.4535	0.4488	0.4678	0.4516	0.0806	0.0798	0.0739	0.0800
909				(-.1,1)	(-.1,1)	(-.1,1)	0.5497	0.5518	0.5546	0.5514	0.0782	0.0786	0.0857	0.0790
910				(0,1)	(0,1)	(0,1)	0.5750	0.5725	0.5716	0.5761	0.0951	0.0967	0.0862	0.0949
911				(.1,1)	(.1,1)	(.1,1)	0.4649	0.4684	0.4718	0.4635	0.0987	0.0989	0.1018	0.0979
912				(.2,1)	(.2,1)	(.2,1)	0.5567	0.5473	0.5343	0.5554	0.0792	0.0780	0.0763	0.0785
913				(.5,1)	(.5,1)	(.5,1)	0.4583	0.4577	0.4446	0.4601	0.1089	0.1087	0.0969	0.1101
914				(1,1)	(1,1)	(1,1)	0.5044	0.5067	0.4996	0.5058	0.1090	0.1104	0.1090	0.1089
915				(2,1)	(2,1)	(2,1)	0.4775	0.4744	0.4815	0.4762	0.0874	0.0876	0.0848	0.0882
916				(5,1)	(5,1)	(5,1)	0.4688	0.4726	0.4554	0.4669	0.0856	0.0848	0.0909	0.0853
917				(10,1)	(10,1)	(10,1)	0.5500	0.5467	0.5634	0.5534	0.0886	0.0887	0.0873	0.0880
918				(0,.1)	(0,.1)	(0,.1)	0.5490	0.5464	0.5269	0.5455	0.0877	0.0888	0.0864	0.0888
919				(0,.2)	(0,.2)	(0,.2)	0.5285	0.5276	0.5352	0.5292	0.0916	0.0908	0.0870	0.0911
920				(0,.5)	(0,.5)	(0,.5)	0.5369	0.5314	0.5332	0.5415	0.0766	0.0773	0.0811	0.0757
921				(0,1)	(0,1)	(0,1)	0.5111	0.5092	0.5275	0.5102	0.0581	0.0578	0.0654	0.0590
922				(0,2)	(0,2)	(0,2)	0.4565	0.4588	0.4599	0.4582	0.0754	0.0768	0.0734	0.0752
923				(0,5)	(0,5)	(0,5)	0.4866	0.4838	0.5095	0.4848	0.0742	0.0726	0.0851	0.0735
924				(0,10)	(0,10)	(0,10)	0.5066	0.5054	0.5160	0.5078	0.0964	0.0963	0.0910	0.0964

925	4	3	3	(0,1)	(0,1)	(-10,1)	0.0092	0.0000	0.0251	0.0103	0.0000	0.0000	0.0001	0.0000
926						(-5,1)	0.0082	0.0015	0.0224	0.0082	0.0000	0.0000	0.0001	0.0000
927						(-2,1)	0.0909	0.0899	0.1008	0.0902	0.0102	0.0104	0.0164	0.0103
928						(-1,1)	0.2974	0.2986	0.2869	0.2966	0.0651	0.0655	0.0656	0.0644
929						(-.5,1)	0.4867	0.4912	0.4892	0.4888	0.0735	0.0740	0.0716	0.0728
930						(-.2,1)	0.5438	0.5489	0.5449	0.5437	0.0850	0.0854	0.0769	0.0858
931						(-.1,1)	0.4943	0.5010	0.4738	0.4950	0.0917	0.0872	0.0775	0.0910
932						(0,1)	0.5220	0.5203	0.5166	0.5249	0.0980	0.0992	0.0942	0.0968
933						(.1,1)	0.5092	0.5056	0.5089	0.5108	0.0849	0.0820	0.0853	0.0832
934						(.2,1)	0.5196	0.5094	0.5283	0.5222	0.0691	0.0655	0.0723	0.0693
935						(.5,1)	0.3996	0.4006	0.4109	0.4017	0.0987	0.0969	0.0901	0.0991
936						(1,1)	0.3547	0.3504	0.3422	0.3576	0.0860	0.0840	0.0855	0.0857
937						(2,1)	0.0830	0.0810	0.0972	0.0853	0.0162	0.0150	0.0209	0.0166
938						(5,1)	0.0092	0.0007	0.0248	0.0097	0.0000	0.0000	0.0001	0.0000
939						(10,1)	0.0084	0.0000	0.0240	0.0088	0.0000	0.0000	0.0001	0.0000
940				(0,1)	(0,1)	(0,.1)	0.6028	0.5932	0.5466	0.6021	0.0836	0.0837	0.0713	0.0824
941						(0,.2)	0.5340	0.5306	0.4901	0.5370	0.0718	0.0709	0.0550	0.0712
942						(0,.5)	0.5509	0.5435	0.5182	0.5548	0.0893	0.0856	0.0775	0.0899
943						(0,1)	0.4305	0.4288	0.4390	0.4316	0.0845	0.0847	0.0851	0.0843
944						(0,2)	0.5776	0.5716	0.6109	0.5817	0.0820	0.0793	0.0778	0.0825
945						(0,5)	0.4127	0.4032	0.4635	0.4095	0.1230	0.1117	0.0879	0.1224
946						(0,10)	0.5010	0.5027	0.5190	0.5024	0.1220	0.1065	0.0669	0.1213
947	4	3	2	(0,1)	(0,1)	(-10,1)	0.0150	0.0001	0.0797	0.0153	0.0001	0.0000	0.0013	0.0001
948						(-5,1)	0.0187	0.0082	0.0841	0.0194	0.0002	0.0001	0.0012	0.0002
949						(-2,1)	0.1464	0.1432	0.1642	0.1482	0.0248	0.0247	0.0291	0.0254
950						(-1,1)	0.3168	0.3197	0.3328	0.3180	0.0762	0.0778	0.0884	0.0760
951						(-.5,1)	0.4469	0.4408	0.4694	0.4464	0.0825	0.0821	0.0863	0.0827
952						(-.2,1)	0.4486	0.4432	0.4600	0.4477	0.0782	0.0775	0.0692	0.0782
953						(-.1,1)	0.5448	0.5462	0.5594	0.5451	0.0780	0.0788	0.0885	0.0788
954						(0,1)	0.5750	0.5725	0.5716	0.5761	0.0951	0.0967	0.0862	0.0949
955						(.1,1)	0.4590	0.4600	0.4696	0.4578	0.0979	0.0973	0.0977	0.0968
956						(.2,1)	0.5387	0.5306	0.5214	0.5355	0.0869	0.0842	0.0809	0.0868
957						(.5,1)	0.4335	0.4273	0.4348	0.4343	0.0992	0.0980	0.0982	0.0993
958						(1,1)	0.3772	0.3777	0.3810	0.3785	0.0984	0.1000	0.0896	0.0989
959						(2,1)	0.1691	0.1671	0.2004	0.1692	0.0471	0.0491	0.0399	0.0462
960						(5,1)	0.0153	0.0039	0.0782	0.0162	0.0001	0.0000	0.0012	0.0001
961						(10,1)	0.0148	0.0001	0.0818	0.0148	0.0001	0.0000	0.0011	0.0001
962				(0,1)	(0,1)	(0,.1)	0.5838	0.5742	0.5558	0.5799	0.0931	0.0909	0.0915	0.0932
963						(0,.2)	0.6394	0.6351	0.6227	0.6391	0.0927	0.0915	0.0871	0.0924
964						(0,.5)	0.5520	0.5493	0.5367	0.5548	0.0777	0.0776	0.0747	0.0771
965						(0,1)	0.5111	0.5092	0.5275	0.5102	0.0581	0.0578	0.0654	0.0590
966						(0,2)	0.3941	0.3978	0.4345	0.3939	0.0814	0.0789	0.0787	0.0816
967						(0,5)	0.3365	0.3490	0.3967	0.3367	0.1240	0.1259	0.1175	0.1243
968						(0,10)	0.3341	0.3520	0.4474	0.3329	0.1281	0.1220	0.1576	0.1264
969	4	4	4	EXP(.1)	EXP(.1)	EXP(.1)	0.4686	0.4559	0.4008	0.4699	0.0833	0.0761	0.0773	0.0829
970				(.2)	(.2)	(.2)	0.4554	0.4394	0.4310	0.4545	0.0975	0.0860	0.0886	0.0963
971				(.5)	(.5)	(.5)	0.5336	0.5224	0.5092	0.5326	0.0941	0.0851	0.0946	0.0964
972				(1)	(1)	(1)	0.5517	0.5465	0.5270	0.5548	0.0940	0.0885	0.0848	0.0953
973				(2)	(2)	(2)	0.4813	0.4760	0.4895	0.4785	0.0835	0.0763	0.0980	0.0843
974				(5)	(5)	(5)	0.5350	0.5189	0.5160	0.5352	0.0788	0.0705	0.0817	0.0801
975				(10)	(10)	(10)	0.5182	0.5111	0.5270	0.5183	0.1093	0.1046	0.0946	0.1089
976				(1)	(1)	(.1)	0.1423	0.1638	0.0784	0.1446	0.0140	0.0128	0.0103	0.0148
977						(.2)	0.2305	0.2356	0.2292	0.2292	0.0456	0.0373	0.0407	0.0445
978						(.5)	0.4101	0.4040	0.4040	0.4069	0.0784	0.0695	0.0656	0.0778
979						(1)	0.4918	0.4782	0.4787	0.4934	0.0898	0.0807	0.0714	0.0888
980						(2)	0.3298	0.3175	0.3629	0.3293	0.0710	0.0564	0.0808	0.0703
981						(5)	0.1846	0.2026	0.2128	0.1866	0.0649	0.0451	0.0564	0.0647
982						(10)	0.0464	0.0732	0.1141	0.0466	0.0075	0.0085	0.0311	0.0073
983	3	3	3	(.1)	(.1)	(.1)	0.4984	0.4878	0.4789	0.4959	0.0733	0.0630	0.0581	0.0733
984				(.2)	(.2)	(.2)	0.4358	0.4292	0.4083	0.4341	0.0817	0.0732	0.0782	0.0807
985				(.5)	(.5)	(.5)	0.5365	0.5125	0.5501	0.5355	0.0855	0.0734	0.0807	0.0847
986				(1)	(1)	(1)	0.4337	0.4250	0.4598	0.4337	0.0681	0.0633	0.0734	0.0691
987				(2)	(2)	(2)	0.5155	0.4886	0.4921	0.5149	0.0899	0.0748	0.0782	0.0902

988				(5)	(5)	(5)	0.4779	0.4497	0.4622	0.4769	0.0807	0.0652	0.0778	0.0808
989				(10)	(10)	(10)	0.5601	0.5367	0.5719	0.5624	0.0825	0.0678	0.0871	0.0838
990				(1)	(1)	(.1)	0.1920	0.2079	0.1421	0.1937	0.0198	0.0171	0.0177	0.0201
991						(.2)	0.3054	0.3162	0.2650	0.3037	0.0519	0.0462	0.0696	0.0521
992						(.5)	0.4713	0.4638	0.4584	0.4692	0.0995	0.0878	0.1006	0.0998
993						(1)	0.5088	0.4974	0.5044	0.5080	0.0915	0.0776	0.0848	0.0918
994						(2)	0.4423	0.4374	0.4401	0.4388	0.1042	0.0946	0.0950	0.1033
995						(5)	0.2287	0.2403	0.2716	0.2290	0.0721	0.0579	0.0762	0.0731
996						(10)	0.1349	0.1810	0.1609	0.1333	0.0313	0.0289	0.0370	0.0317
997	4	3	3	(.1)	(.1)	(.1)	0.4933	0.4834	0.4722	0.4974	0.0819	0.0704	0.0761	0.0812
998				(.2)	(.2)	(.2)	0.5408	0.5236	0.5197	0.5389	0.1038	0.0932	0.1019	0.1044
999				(.5)	(.5)	(.5)	0.4974	0.4785	0.4903	0.4972	0.0924	0.0779	0.0989	0.0928
1000				(1)	(1)	(1)	0.5771	0.5769	0.5615	0.5774	0.0889	0.0804	0.0609	0.0887
1001				(2)	(2)	(2)	0.4510	0.4495	0.4494	0.4506	0.0717	0.0638	0.0732	0.0708
1002				(5)	(5)	(5)	0.4506	0.4345	0.4413	0.4503	0.0702	0.0584	0.0724	0.0694
1003				(10)	(10)	(10)	0.5350	0.5179	0.5214	0.5363	0.1048	0.0881	0.0849	0.1048
1004				(1)	(1)	(.1)	0.2004	0.2187	0.1273	0.2015	0.0233	0.0197	0.0210	0.0232
1005						(.2)	0.2936	0.2943	0.2244	0.2943	0.0565	0.0371	0.0497	0.0577
1006						(.5)	0.4540	0.4346	0.4634	0.4547	0.0905	0.0721	0.0795	0.0911
1007						(1)	0.4515	0.4372	0.4893	0.4490	0.0887	0.0790	0.1137	0.0883
1008						(2)	0.3674	0.3773	0.3730	0.3667	0.0807	0.0696	0.0693	0.0790
1009						(5)	0.1909	0.2229	0.2902	0.1902	0.0614	0.0541	0.0807	0.0607
1010						(10)	0.1054	0.1338	0.1927	0.1039	0.0299	0.0247	0.0688	0.0294
1011	4	3	2	(.1)	(.1)	(.1)	0.5595	0.5460	0.5341	0.5596	0.0848	0.0774	0.0748	0.0844
1012				(.2)	(.2)	(.2)	0.5431	0.5270	0.5560	0.5431	0.0760	0.0633	0.0782	0.0766
1013				(.5)	(.5)	(.5)	0.5293	0.5271	0.5239	0.5281	0.0932	0.0873	0.0940	0.0918
1014				(1)	(1)	(1)	0.4070	0.4161	0.4249	0.4090	0.0895	0.0802	0.0792	0.0903
1015				(2)	(2)	(2)	0.5949	0.5667	0.5763	0.5971	0.0861	0.0737	0.0911	0.0845
1016				(5)	(5)	(5)	0.4417	0.4403	0.4447	0.4392	0.0834	0.0737	0.0956	0.0827
1017				(10)	(10)	(10)	0.5119	0.5075	0.5432	0.5131	0.0875	0.0774	0.0790	0.0873
1018				(1)	(1)	(.1)	0.2657	0.2742	0.1660	0.2680	0.0459	0.0385	0.0229	0.0465
1019						(.2)	0.3563	0.3581	0.2880	0.3598	0.0484	0.0421	0.0406	0.0491
1020						(.5)	0.4752	0.4613	0.4467	0.4767	0.0726	0.0558	0.0713	0.0724
1021						(1)	0.5606	0.5456	0.6072	0.5631	0.0840	0.0736	0.0832	0.0834
1022						(2)	0.4415	0.4367	0.4694	0.4462	0.0964	0.0872	0.0887	0.0970
1023						(5)	0.2660	0.2730	0.3497	0.2636	0.0947	0.0881	0.0919	0.0941
1024						(10)	0.1012	0.1314	0.2189	0.1019	0.0352	0.0328	0.0638	0.0351
1025	4	4	4	U(0,.1)	U(0,.1)	U(0,.1)	0.4612	0.4640	0.4659	0.4613	0.1028	0.1068	0.1034	0.1027
1026				(0,.2)	(0,.2)	(0,.2)	0.5179	0.5282	0.5317	0.5186	0.0806	0.0815	0.0764	0.0818
1027				(0,.5)	(0,.5)	(0,.5)	0.4214	0.4259	0.4438	0.4226	0.0799	0.0811	0.0860	0.0786
1028				(0,1)	(0,1)	(0,1)	0.5137	0.5179	0.4856	0.5129	0.0747	0.0766	0.0717	0.0740
1029				(0,2)	(0,2)	(0,2)	0.5329	0.5358	0.5322	0.5343	0.0830	0.0849	0.0803	0.0829
1030				(0,5)	(0,5)	(0,5)	0.4562	0.4627	0.4682	0.4556	0.0786	0.0815	0.0840	0.0790
1031				(0,10)	(0,10)	(0,10)	0.0395	0.0384	0.0045	0.0395	0.0008	0.0011	0.0000	0.0008
1032				(0,1)	(0,1)	(0,.1)	0.0610	0.0632	0.0501	0.0617	0.0055	0.0059	0.0100	0.0056
1033						(0,.2)	0.0956	0.0883	0.1031	0.0954	0.0130	0.0120	0.0253	0.0130
1034						(0,.5)	0.3028	0.2965	0.3336	0.3035	0.0729	0.0726	0.1023	0.0730
1035						(0,1)	0.5281	0.5338	0.5179	0.5287	0.0882	0.0897	0.0737	0.0888
1036						(0,2)	0.2693	0.2700	0.3438	0.2662	0.0704	0.0696	0.0818	0.0700
1037						(0,5)	0.0448	0.0519	0.1111	0.0470	0.0053	0.0076	0.0257	0.0056
1038						(0,10)	0.0109	0.0174	0.0338	0.0114	0.0004	0.0008	0.0043	0.0004
1039	3	3	3	(0,.1)	(0,.1)	(0,.1)	0.4982	0.5079	0.5054	0.4987	0.0704	0.0734	0.0755	0.0704
1040				(0,.2)	(0,.2)	(0,.2)	0.5046	0.5052	0.5055	0.5077	0.1076	0.1099	0.0907	0.1070
1041				(0,.5)	(0,.5)	(0,.5)	0.4663	0.4728	0.4675	0.4654	0.0881	0.0920	0.0797	0.0881
1042				(0,1)	(0,1)	(0,1)	0.4947	0.5085	0.4951	0.4920	0.0679	0.0740	0.0681	0.0674
1043				(0,2)	(0,2)	(0,2)	0.5996	0.6029	0.5840	0.6008	0.0686	0.0737	0.0586	0.0683
1044				(0,5)	(0,5)	(0,5)	0.5958	0.5977	0.6102	0.5929	0.0596	0.0623	0.0504	0.0594
1045				(0,10)	(0,10)	(0,10)	0.0919	0.0870	0.0246	0.0909	0.0083	0.0077	0.0001	0.0085
1046				(0,1)	(0,1)	(0,.1)	0.0788	0.0796	0.0601	0.0797	0.0073	0.0065	0.0045	0.0078

1047						(0,.2)	0.1389	0.1307	0.1165	0.1384	0.0262	0.0234	0.0210	0.0257
1048						(0,.5)	0.3525	0.3438	0.3667	0.3530	0.0784	0.0809	0.0773	0.0787
1049						(0,1)	0.4998	0.4953	0.5069	0.5016	0.0678	0.0694	0.0657	0.0680
1050						(0,2)	0.3627	0.3573	0.4086	0.3629	0.0757	0.0724	0.0753	0.0757
1051						(0,5)	0.1216	0.1042	0.1704	0.1230	0.0514	0.0267	0.0751	0.0507
1052						(0,10)	0.0429	0.0673	0.0773	0.0411	0.0030	0.0076	0.0145	0.0028
1053	4	3	3	(0,.1)	(0,.1)	(0,.1)	0.5283	0.5337	0.5206	0.5288	0.0751	0.0783	0.0697	0.0754
1054				(0,.2)	(0,.2)	(0,.2)	0.5154	0.5224	0.5063	0.5160	0.0885	0.0916	0.0888	0.0877
1055				(0,.5)	(0,.5)	(0,.5)	0.5766	0.5823	0.5450	0.5779	0.1153	0.1174	0.0987	0.1154
1056				(0,1)	(0,1)	(0,1)	0.5202	0.5275	0.5292	0.5177	0.0799	0.0824	0.0690	0.0807
1057				(0,2)	(0,2)	(0,2)	0.5225	0.5279	0.5263	0.5228	0.0822	0.0864	0.0776	0.0823
1058				(0,5)	(0,5)	(0,5)	0.4803	0.4829	0.4767	0.4779	0.0825	0.0870	0.0826	0.0818
1059				(0,10)	(0,10)	(0,10)	0.0599	0.0538	0.0210	0.0612	0.0026	0.0027	0.0001	0.0029
1060				(0,1)	(0,1)	(0,.1)	0.1089	0.1029	0.0897	0.1114	0.0105	0.0108	0.0145	0.0106
1061						(0,.2)	0.1270	0.1177	0.1436	0.1299	0.0189	0.0181	0.0321	0.0191
1062						(0,.5)	0.0292	0.0308	0.0003	0.0293	0.0014	0.0019	0.0000	0.0014
1063						(0,1)	0.0332	0.0383	0.0003	0.0337	0.0016	0.0039	0.0000	0.0016
1064						(0,2)	0.0344	0.0413	0.0003	0.0335	0.0019	0.0031	0.0000	0.0018
1065						(0,5)	0.0287	0.0315	0.0003	0.0296	0.0009	0.0021	0.0000	0.0009
1066						(0,10)	0.0248	0.0292	0.0003	0.0249	0.0004	0.0014	0.0000	0.0005
1067	4	3	2	(0,.1)	(0,.1)	(0,.1)	0.4698	0.4716	0.4856	0.4712	0.0753	0.0764	0.0717	0.0749
1068				(0,.2)	(0,.2)	(0,.2)	0.5310	0.5376	0.5711	0.5330	0.0865	0.0898	0.0811	0.0866
1069				(0,.5)	(0,.5)	(0,.5)	0.4413	0.4380	0.4216	0.4415	0.0747	0.0765	0.0686	0.0751
1070				(0,1)	(0,1)	(0,1)	0.5173	0.5218	0.5540	0.5168	0.0780	0.0810	0.0795	0.0781
1071				(0,2)	(0,2)	(0,2)	0.4567	0.4576	0.4584	0.4591	0.0887	0.0903	0.0916	0.0894
1072				(0,5)	(0,5)	(0,5)	0.4600	0.4655	0.4399	0.4620	0.0907	0.0944	0.0920	0.0917
1073				(0,10)	(0,10)	(0,10)	0.0860	0.0863	0.0193	0.0859	0.0096	0.0108	0.0001	0.0092
1074				(0,1)	(0,1)	(0,.1)	0.1732	0.1703	0.1503	0.1705	0.0190	0.0199	0.0215	0.0192
1075						(0,.2)	0.2554	0.2528	0.2603	0.2548	0.0369	0.0368	0.0435	0.0368
1076						(0,.5)	0.0509	0.0620	0.0017	0.0512	0.0025	0.0060	0.0000	0.0028
1077						(0,1)	0.0472	0.0489	0.0017	0.0465	0.0011	0.0025	0.0000	0.0011
1078						(0,2)	0.0571	0.0676	0.0017	0.0566	0.0029	0.0075	0.0000	0.0029
1079						(0,5)	0.0570	0.0591	0.0017	0.0563	0.0060	0.0081	0.0000	0.0064
1080						(0,10)	0.0532	0.0605	0.0017	0.0531	0.0026	0.0071	0.0000	0.0028
1081	4	4	4	G(.1,1)	G(.1,1)	G(.1,1)	0.5497	0.4797	0.5616	0.5486	0.0857	0.0386	0.0837	0.0852
1082				(.2,1)	(.2,1)	(.2,1)	0.4657	0.4753	0.5017	0.4643	0.0790	0.0487	0.0841	0.0794
1083				(.5,1)	(.5,1)	(.5,1)	0.4648	0.4495	0.4391	0.4667	0.0901	0.0757	0.0883	0.0906
1084				(1,1)	(1,1)	(1,1)	0.4943	0.4942	0.5041	0.4961	0.0597	0.0533	0.0737	0.0602
1085				(2,1)	(2,1)	(2,1)	0.4930	0.4817	0.4574	0.4940	0.0914	0.0838	0.0861	0.0915
1086				(1,1)	(5,1)	(5,1)	0.4765	0.4732	0.4706	0.4754	0.0798	0.0776	0.0711	0.0806
1087				(10,1)	(10,1)	(10,1)	0.5594	0.5612	0.5399	0.5618	0.0957	0.0950	0.0850	0.0944
1088				(1,.1)	(1,.1)	(1,.1)	0.4029	0.3982	0.4466	0.4044	0.0712	0.0648	0.0823	0.0723
1089				(1,.2)	(1,.2)	(1,.2)	0.4473	0.4472	0.4592	0.4491	0.1004	0.0915	0.0897	0.1004
1090				(1,.5)	(1,.5)	(1,.5)	0.4325	0.4101	0.4705	0.4359	0.0873	0.0701	0.1013	0.0880
1091				(1,1)	(1,1)	(1,1)	0.5359	0.5252	0.5275	0.5366	0.0633	0.0601	0.0681	0.0644
1092				(1,2)	(1,2)	(1,2)	0.4765	0.4554	0.4683	0.4788	0.0847	0.0722	0.0961	0.0832
1093				(1,5)	(1,5)	(1,5)	0.5152	0.5085	0.4950	0.5149	0.0957	0.0825	0.0680	0.0955
1094				(1,10)	(1,10)	(1,10)	0.5053	0.4888	0.5147	0.5058	0.0793	0.0727	0.0770	0.0791
1095				(1,1)	(1,1)	(.1,1)	0.1952	0.2064	0.0967	0.1955	0.0428	0.0410	0.0300	0.0429
1096						(.2,1)	0.2339	0.2409	0.1525	0.2348	0.0496	0.0418	0.0318	0.0494
1097						(.5,1)	0.4170	0.4213	0.3938	0.4200	0.0702	0.0694	0.0724	0.0702
1098						(1,1)	0.4831	0.4748	0.5212	0.4834	0.0788	0.0726	0.0858	0.0796
1099						(2,1)	0.2983	0.3056	0.3034	0.3001	0.0828	0.0785	0.0794	0.0815
1100						(5,1)	0.0159	0.0195	0.0241	0.0168	0.0006	0.0012	0.0013	0.0006
1101						(10,1)	0.0034	0.0007	0.0068	0.0040	0.0000	0.0000	0.0000	0.0000
1102				(1,1)	(1,1)	(1,.1)	0.1701	0.1913	0.1065	0.1697	0.0174	0.0170	0.0187	0.0169
1103						(1,.2)	0.2068	0.2042	0.1952	0.2107	0.0426	0.0317	0.0519	0.0436
1104						(1,.5)	0.4001	0.3911	0.4104	0.4000	0.0867	0.0736	0.0888	0.0868
1105						(1,1)	0.4934	0.4785	0.4643	0.4930	0.0789	0.0699	0.0727	0.0805
1106						(1,2)	0.3841	0.3749	0.3901	0.3853	0.0604	0.0524	0.0680	0.0604
1107						(1,5)	0.1090	0.1330	0.1771	0.1098	0.0231	0.0222	0.0317	0.0223

1108						(1,10)	0.0727	0.1251	0.1044	0.0735	0.0208	0.0218	0.0266	0.0204
1109	3	3	3	(.1,1)	(.1,1)	(.1,1)	0.5079	0.4583	0.5416	0.5087	0.0865	0.0265	0.0827	0.0869
1110				(.2,1)	(.2,1)	(.2,1)	0.5054	0.4810	0.5401	0.5026	0.0763	0.0487	0.0701	0.0770
1111				(.5,1)	(.5,1)	(.5,1)	0.4816	0.4577	0.4816	0.4799	0.0909	0.0649	0.0769	0.0906
1112				(1,1)	(1,1)	(1,1)	0.4936	0.4911	0.4855	0.4968	0.0793	0.0730	0.0609	0.0793
1113				(2,1)	(2,1)	(2,1)	0.4757	0.4585	0.4732	0.4742	0.0737	0.0662	0.0810	0.0742
1114				(1,1)	(5,1)	(5,1)	0.4937	0.4943	0.4943	0.4890	0.0720	0.0690	0.0595	0.0733
1115				(10,1)	(10,1)	(10,1)	0.4939	0.4963	0.4762	0.4915	0.0729	0.0739	0.0664	0.0734
1116				(1,.1)	(1,.1)	(1,.1)	0.4959	0.4813	0.4946	0.4941	0.0958	0.0811	0.0854	0.0960
1117				(1,.2)	(1,.2)	(1,.2)	0.4284	0.4142	0.4237	0.4269	0.0763	0.0637	0.0787	0.0776
1118				(1,.5)	(1,.5)	(1,.5)	0.4204	0.4060	0.4448	0.4192	0.0723	0.0638	0.0732	0.0714
1119				(1,1)	(1,1)	(1,1)	0.4978	0.4993	0.5352	0.4967	0.0822	0.0769	0.0764	0.0824
1120				(1,2)	(1,2)	(1,2)	0.4868	0.4860	0.4747	0.4869	0.0968	0.0916	0.1071	0.0971
1121				(1,5)	(1,5)	(1,5)	0.5189	0.5070	0.4857	0.5166	0.1044	0.0907	0.1033	0.1042
1122				(1,10)	(1,10)	(1,10)	0.4561	0.4396	0.4839	0.4556	0.0796	0.0598	0.0830	0.0801
1123				(1,1)	(1,1)	(.1,1)	0.2444	0.2681	0.1594	0.2437	0.0359	0.0316	0.0421	0.0361
1124						(.2,1)	0.2599	0.2703	0.1782	0.2594	0.0517	0.0413	0.0364	0.0509
1125						(.5,1)	0.4246	0.4104	0.4090	0.4234	0.0986	0.0701	0.0968	0.0972
1126						(1,1)	0.4233	0.4220	0.4153	0.4211	0.0700	0.0658	0.0640	0.0700
1127						(2,1)	0.3691	0.3713	0.3661	0.3667	0.0813	0.0745	0.0681	0.0799
1128						(5,1)	0.0639	0.0586	0.0844	0.0637	0.0111	0.0098	0.0117	0.0110
1129						(10,1)	0.0210	0.0044	0.0310	0.0209	0.0001	0.0001	0.0002	0.0001
1130				(1,1)	(1,1)	(1,.1)	0.1836	0.2065	0.1454	0.1813	0.0335	0.0270	0.0248	0.0334
1131						(1,.2)	0.2314	0.2376	0.2166	0.2311	0.0450	0.0387	0.0546	0.0460
1132						(1,.5)	0.4524	0.4429	0.4446	0.4508	0.0827	0.0753	0.0776	0.0825
1133						(1,1)	0.5801	0.5569	0.5830	0.5809	0.0787	0.0658	0.0751	0.0786
1134						(1,2)	0.3750	0.3667	0.3557	0.3744	0.0805	0.0670	0.0791	0.0805
1135						(1,5)	0.2194	0.2196	0.2609	0.2195	0.0518	0.0387	0.0695	0.0513
1136						(1,10)	0.0998	0.1438	0.1217	0.0981	0.0261	0.0244	0.0315	0.0271
1137	4	3	3	(.1,1)	(.1,1)	(.1,1)	0.5660	0.4909	0.5391	0.5663	0.1019	0.0473	0.0822	0.1021
1138				(.2,1)	(.2,1)	(.2,1)	0.4832	0.4504	0.4657	0.4837	0.0768	0.0497	0.0847	0.0774
1139				(.5,1)	(.5,1)	(.5,1)	0.4794	0.4675	0.5003	0.4817	0.0832	0.0673	0.0868	0.0837
1140				(1,1)	(1,1)	(1,1)	0.4835	0.4677	0.4698	0.4823	0.0903	0.0732	0.0880	0.0901
1141				(2,1)	(2,1)	(2,1)	0.4897	0.4775	0.5155	0.4873	0.0911	0.0817	0.0822	0.0905
1142				(1,1)	(5,1)	(5,1)	0.4687	0.4746	0.4612	0.4680	0.0781	0.0749	0.0855	0.0799
1143				(10,1)	(10,1)	(10,1)	0.5095	0.5048	0.4929	0.5081	0.0903	0.0894	0.0917	0.0920
1144				(1,.1)	(1,.1)	(1,.1)	0.4694	0.4639	0.4614	0.4720	0.0777	0.0701	0.0721	0.0773
1145				(1,.2)	(1,.2)	(1,.2)	0.4757	0.4779	0.4561	0.4790	0.0769	0.0712	0.0774	0.0782
1146				(1,.5)	(1,.5)	(1,.5)	0.4709	0.4735	0.4638	0.4715	0.0905	0.0762	0.0740	0.0911
1147				(1,1)	(1,1)	(1,1)	0.4885	0.4748	0.4874	0.4864	0.0681	0.0580	0.0713	0.0684
1148				(1,2)	(1,2)	(1,2)	0.5040	0.4983	0.5125	0.5048	0.0965	0.0867	0.0872	0.0952
1149				(1,5)	(1,5)	(1,5)	0.4596	0.4560	0.4936	0.4585	0.0768	0.0680	0.0878	0.0778
1150				(1,10)	(1,10)	(1,10)	0.3707	0.3706	0.4021	0.3681	0.0618	0.0511	0.0645	0.0610
1151				(1,1)	(1,1)	(.1,1)	0.2126	0.2212	0.1130	0.2119	0.0464	0.0428	0.0332	0.0474
1152						(.2,1)	0.2988	0.2990	0.2139	0.3004	0.0567	0.0473	0.0673	0.0561
1153						(.5,1)	0.3949	0.4022	0.3581	0.3961	0.0780	0.0714	0.0743	0.0784
1154						(1,1)	0.5272	0.5229	0.5618	0.5238	0.0807	0.0745	0.0725	0.0823
1155						(2,1)	0.3098	0.3128	0.2930	0.3104	0.0735	0.0589	0.0641	0.0735
1156						(5,1)	0.0350	0.0333	0.0630	0.0352	0.0024	0.0028	0.0044	0.0023
1157						(10,1)	0.0080	0.0020	0.0251	0.0078	0.0000	0.0000	0.0002	0.0000
1158				(1,1)	(1,1)	(1,.1)	0.2067	0.2144	0.1191	0.2055	0.0283	0.0235	0.0179	0.0280
1159						(1,.2)	0.2204	0.2301	0.2165	0.2195	0.0413	0.0359	0.0607	0.0411
1160						(1,.5)	0.4121	0.3947	0.4077	0.4118	0.0587	0.0497	0.0796	0.0572
1161						(1,1)	0.6157	0.6054	0.5977	0.6188	0.0824	0.0789	0.0779	0.0817
1162						(1,2)	0.3827	0.3786	0.4102	0.3832	0.0817	0.0622	0.0670	0.0826
1163						(1,5)	0.1013	0.1317	0.1715	0.1009	0.0156	0.0153	0.0274	0.0149
1164						(1,10)	0.1187	0.1427	0.1954	0.1192	0.0510	0.0460	0.0726	0.0510
1165	4	3	2	(.1,1)	(.1,1)	(.1,1)	0.5347	0.4839	0.5450	0.5348	0.0701	0.0354	0.0775	0.0714
1166				(.2,1)	(.2,1)	(.2,1)	0.4750	0.4521	0.4690	0.4769	0.0955	0.0593	0.0862	0.0947
1167				(.5,1)	(.5,1)	(.5,1)	0.5271	0.5131	0.5097	0.5258	0.0908	0.0745	0.0831	0.0913

1168				(1,1)	(1,1)	(1,1)	0.5031	0.4948	0.5137	0.5082	0.0938	0.0869	0.0962	0.0920
1169				(2,1)	(2,1)	(2,1)	0.4398	0.4286	0.4392	0.4405	0.0850	0.0765	0.0870	0.0855
1170				(1,1)	(5,1)	(5,1)	0.4568	0.4649	0.4559	0.4559	0.0928	0.0932	0.0828	0.0899
1171				(10,1)	(10,1)	(10,1)	0.5656	0.5606	0.5909	0.5649	0.0656	0.0641	0.0776	0.0654
1172				(1,.1)	(1,.1)	(1,.1)	0.5371	0.5274	0.5558	0.5345	0.0834	0.0755	0.0848	0.0830
1173				(1,.2)	(1,.2)	(1,.2)	0.4507	0.4448	0.4557	0.4504	0.0842	0.0770	0.0860	0.0848
1174				(1,.5)	(1,.5)	(1,.5)	0.5240	0.5170	0.4903	0.5268	0.0819	0.0755	0.0909	0.0808
1175				(1,1)	(1,1)	(1,1)	0.4703	0.4666	0.4970	0.4710	0.0851	0.0688	0.0793	0.0844
1176				(1,2)	(1,2)	(1,2)	0.4719	0.4681	0.4519	0.4719	0.0837	0.0787	0.0744	0.0829
1177				(1,5)	(1,5)	(1,5)	0.5501	0.5267	0.5223	0.5474	0.0874	0.0706	0.0974	0.0881
1178				(1,10)	(1,10)	(1,10)	0.4445	0.4405	0.4578	0.4449	0.0942	0.0851	0.0944	0.0942
1179				(1,1)	(1,1)	(.1,1)	0.3124	0.3133	0.1372	0.3112	0.0535	0.0434	0.0360	0.0528
1180						(.2,1)	0.3220	0.3272	0.2521	0.3248	0.0496	0.0444	0.0589	0.0500
1181						(.5,1)	0.4752	0.4643	0.4427	0.4736	0.0894	0.0760	0.0866	0.0887
1182						(1,1)	0.5436	0.5270	0.5174	0.5435	0.0798	0.0720	0.0964	0.0794
1183						(2,1)	0.3229	0.3240	0.3497	0.3224	0.1041	0.0954	0.0946	0.1045
1184						(5,1)	0.0646	0.0588	0.1196	0.0649	0.0315	0.0304	0.0187	0.0319
1185						(10,1)	0.0147	0.0034	0.0816	0.0155	0.0001	0.0001	0.0015	0.0001
1186				(1,1)	(1,1)	(1,.1)	0.3577	0.3632	0.2454	0.3563	0.0341	0.0294	0.0495	0.0342
1187						(1,.2)	0.4033	0.3929	0.3393	0.4063	0.0729	0.0562	0.0661	0.0739
1188						(1,.5)	0.4639	0.4501	0.4425	0.4672	0.0740	0.0612	0.0835	0.0743
1189						(1,1)	0.5358	0.5295	0.5515	0.5355	0.0829	0.0694	0.0904	0.0822
1190						(1,2)	0.3821	0.3904	0.4272	0.3823	0.0761	0.0695	0.0743	0.0765
1191						(1,5)	0.1856	0.2076	0.2977	0.1860	0.0625	0.0588	0.0803	0.0628
1192						(1,10)	0.1065	0.1282	0.2159	0.1051	0.0320	0.0331	0.0579	0.0312
1193	4	4	4	W(.1,1)	W(.1,1)	W(.1,1)	0.4847	0.4256	0.5071	0.4881	0.0822	0.0083	0.0910	0.0853
1194				(.2,1)	(.2,1)	(.2,1)	0.4785	0.4189	0.4398	0.4800	0.0840	0.0292	0.1004	0.0839
1195				(.5,1)	(.5,1)	(.5,1)	0.5190	0.4898	0.4944	0.5164	0.0949	0.0651	0.0874	0.0963
1196				(1,1)	(1,1)	(1,1)	0.5517	0.5465	0.5275	0.5548	0.0940	0.0885	0.0873	0.0953
1197				(2,1)	(2,1)	(2,1)	0.4996	0.5003	0.4941	0.4975	0.0951	0.0945	0.0993	0.0948
1198				(1,1)	(5,1)	(5,1)	0.5369	0.5377	0.5162	0.5352	0.0869	0.0876	0.0811	0.0875
1199				(10,1)	(10,1)	(10,1)	0.5276	0.5175	0.5220	0.5281	0.0982	0.0933	0.0943	0.0985
1200				(1,.1)	(1,.1)	(1,.1)	0.5466	0.5359	0.5600	0.5498	0.0819	0.0738	0.0779	0.0830
1201				(1,.2)	(1,.2)	(1,.2)	0.5082	0.4884	0.5129	0.5031	0.0895	0.0750	0.0928	0.0895
1202				(1,.5)	(1,.5)	(1,.5)	0.5218	0.5090	0.5265	0.5201	0.0579	0.0514	0.0672	0.0588
1203				(1,1)	(1,1)	(1,1)	0.4918	0.4782	0.4712	0.4934	0.0898	0.0807	0.0683	0.0888
1204				(1,2)	(1,2)	(1,2)	0.4986	0.4886	0.5391	0.4986	0.0944	0.0834	0.0809	0.0934
1205				(1,5)	(1,5)	(1,5)	0.5009	0.4955	0.4827	0.5026	0.0671	0.0584	0.0749	0.0681
1206				(1,10)	(1,10)	(1,10)	0.5204	0.5136	0.5447	0.5194	0.0680	0.0659	0.0628	0.0680
1207				(1,1)	(1,1)	(.1,1)	0.4957	0.3418	0.4119	0.5027	0.1540	0.0386	0.1190	0.1570
1208						(.2,1)	0.4601	0.3711	0.4122	0.4609	0.1443	0.0317	0.0820	0.1439
1209						(.5,1)	0.4427	0.4091	0.4838	0.4419	0.0948	0.0661	0.0962	0.0931
1210						(1,1)	0.4413	0.4357	0.4188	0.4413	0.0831	0.0748	0.0795	0.0829
1211						(2,1)	0.4718	0.4522	0.4770	0.4710	0.0982	0.0804	0.0833	0.0989
1212						(5,1)	0.4778	0.4582	0.4326	0.4784	0.0953	0.0819	0.0641	0.0940
1213						(10,1)	0.4020	0.3961	0.3411	0.4010	0.0992	0.0905	0.0835	0.0986
1214				(1,1)	(1,1)	(1,.1)	0.4775	0.4647	0.5073	0.4820	0.0856	0.0737	0.0818	0.0862
1215						(1,.2)	0.5251	0.5129	0.5262	0.5241	0.0750	0.0669	0.0680	0.0749
1216						(1,.5)	0.4770	0.4617	0.4908	0.4778	0.0842	0.0733	0.0769	0.0828
1217						(1,1)	0.4857	0.4830	0.4903	0.4861	0.0788	0.0705	0.0858	0.0791
1218						(1,2)	0.5200	0.5011	0.5257	0.5180	0.0763	0.0670	0.0742	0.0759
1219						(1,5)	0.4785	0.4686	0.5018	0.4823	0.0790	0.0734	0.0811	0.0794
1220						(1,10)	0.4992	0.4925	0.4647	0.4957	0.0787	0.0723	0.0829	0.0782
1221	3	3	3	(.1,1)	(.1,1)	(.1,1)	0.5463	0.4527	0.5119	0.5546	0.0818	0.0102	0.0705	0.0756
1222				(.2,1)	(.2,1)	(.2,1)	0.4614	0.4447	0.4915	0.4589	0.0805	0.0338	0.0808	0.0811
1223				(.5,1)	(.5,1)	(.5,1)	0.4736	0.4414	0.4925	0.4735	0.0788	0.0419	0.0736	0.0784
1224				(1,1)	(1,1)	(1,1)	0.4299	0.4286	0.4442	0.4311	0.0871	0.0801	0.0721	0.0870
1225				(2,1)	(2,1)	(2,1)	0.4613	0.4660	0.4692	0.4632	0.0816	0.0823	0.0832	0.0809
1226				(1,1)	(5,1)	(5,1)	0.5821	0.5851	0.5760	0.5810	0.0706	0.0708	0.0754	0.0714
1227				(10,1)	(10,1)	(10,1)	0.5289	0.5285	0.5280	0.5310	0.0779	0.0794	0.0857	0.0794

1228				(1,.1)	(1,.1)	(1,.1)	0.6014	0.5744	0.5714	0.6041	0.0912	0.0772	0.0698	0.0916
1229				(1,.2)	(1,.2)	(1,.2)	0.5300	0.5176	0.5452	0.5286	0.0806	0.0691	0.0692	0.0799
1230				(1,.5)	(1,.5)	(1,.5)	0.5117	0.5103	0.5146	0.5109	0.0836	0.0870	0.0794	0.0838
1231				(1,1)	(1,1)	(1,1)	0.5305	0.5201	0.5089	0.5296	0.0821	0.0717	0.0751	0.0826
1232				(1,2)	(1,2)	(1,2)	0.4375	0.4150	0.4431	0.4367	0.0759	0.0642	0.0764	0.0759
1233				(1,5)	(1,5)	(1,5)	0.5080	0.5067	0.4851	0.5091	0.0869	0.0729	0.0836	0.0867
1234				(1,10)	(1,10)	(1,10)	0.4833	0.4766	0.4560	0.4842	0.0764	0.0638	0.0647	0.0778
1235				(1,1)	(1,1)	(.1,1)	0.4674	0.3731	0.4747	0.4794	0.1398	0.0354	0.1017	0.1416
1236						(.2,1)	0.5241	0.3819	0.4611	0.5234	0.1391	0.0447	0.1044	0.1381
1237						(.5,1)	0.4691	0.4628	0.5563	0.4689	0.0731	0.0627	0.0781	0.0728
1238						(1,1)	0.5535	0.5478	0.5463	0.5564	0.0670	0.0579	0.0765	0.0668
1239						(2,1)	0.4493	0.4385	0.4245	0.4504	0.0993	0.0905	0.0778	0.0992
1240						(5,1)	0.4886	0.4580	0.4839	0.4874	0.0878	0.0708	0.0817	0.0883
1241						(10,1)	0.5204	0.4965	0.4688	0.5219	0.1029	0.0906	0.0844	0.1033
1242				(1,1)	(1,1)	(1,.1)	0.5238	0.5228	0.5307	0.5214	0.0857	0.0800	0.0955	0.0862
1243						(1,.2)	0.3896	0.3809	0.4055	0.3918	0.0792	0.0638	0.0869	0.0783
1244						(1,.5)	0.4937	0.4795	0.4578	0.4960	0.0776	0.0646	0.0730	0.0770
1245						(1,1)	0.4424	0.4435	0.4660	0.4403	0.0774	0.0685	0.0911	0.0758
1246						(1,2)	0.5112	0.4957	0.5064	0.5122	0.0892	0.0744	0.0806	0.0892
1247						(1,5)	0.4291	0.4139	0.4265	0.4298	0.0816	0.0707	0.0784	0.0812
1248						(1,10)	0.4153	0.3985	0.4637	0.4148	0.0616	0.0525	0.0706	0.0602
1249	4	3	3	(.1,1)	(.1,1)	(.1,1)	0.5123	0.4397	0.4982	0.5054	0.0826	0.0145	0.0823	0.0841
1250				(.2,1)	(.2,1)	(.2,1)	0.5408	0.4535	0.5296	0.5402	0.1074	0.0344	0.0992	0.1074
1251				(.5,1)	(.5,1)	(.5,1)	0.4854	0.4422	0.4885	0.4866	0.0925	0.0501	0.0925	0.0930
1252				(1,1)	(1,1)	(1,1)	0.5771	0.5769	0.5419	0.5774	0.0889	0.0804	0.0604	0.0887
1253				(2,1)	(2,1)	(2,1)	0.4514	0.4560	0.4473	0.4508	0.0699	0.0714	0.0710	0.0693
1254				(1,1)	(5,1)	(5,1)	0.4576	0.4564	0.4433	0.4592	0.0775	0.0770	0.0720	0.0777
1255				(10,1)	(10,1)	(10,1)	0.5224	0.5241	0.5218	0.5231	0.0935	0.0949	0.0840	0.0937
1256				(1,.1)	(1,.1)	(1,.1)	0.5792	0.5727	0.5619	0.5846	0.0743	0.0689	0.0733	0.0732
1257				(1,.2)	(1,.2)	(1,.2)	0.5037	0.5038	0.5006	0.5059	0.0701	0.0618	0.0452	0.0711
1258				(1,.5)	(1,.5)	(1,.5)	0.5074	0.4775	0.5554	0.5100	0.0943	0.0675	0.0672	0.0961
1259				(1,1)	(1,1)	(1,1)	0.4515	0.4372	0.4858	0.4490	0.0887	0.0790	0.1057	0.0883
1260				(1,2)	(1,2)	(1,2)	0.4903	0.4781	0.4747	0.4944	0.0944	0.0793	0.0721	0.0929
1261				(1,5)	(1,5)	(1,5)	0.5478	0.5414	0.5284	0.5502	0.0850	0.0788	0.0909	0.0852
1262				(1,10)	(1,10)	(1,10)	0.4924	0.4947	0.4760	0.4922	0.0641	0.0615	0.0629	0.0646
1263				(1,1)	(1,1)	(.1,1)	0.4043	0.3333	0.4688	0.3998	0.0603	0.0193	0.0846	0.0601
1264						(.2,1)	0.4104	0.3659	0.4640	0.4108	0.0802	0.0423	0.1010	0.0812
1265						(.5,1)	0.4404	0.4337	0.4296	0.4413	0.0963	0.0793	0.0884	0.0946
1266						(1,1)	0.4841	0.4723	0.4381	0.4825	0.0714	0.0644	0.0712	0.0712
1267						(2,1)	0.5786	0.5523	0.5644	0.5797	0.0841	0.0714	0.0715	0.0842
1268						(5,1)	0.5233	0.5174	0.5039	0.5255	0.0832	0.0721	0.0660	0.0825
1269						(10,1)	0.4580	0.4343	0.3828	0.4560	0.0987	0.0823	0.0673	0.0972
1270				(1,1)	(1,1)	(1,.1)	0.4726	0.4589	0.4706	0.4735	0.0871	0.0768	0.0919	0.0877
1271						(1,.2)	0.5062	0.4909	0.5024	0.5035	0.0855	0.0722	0.0794	0.0856
1272						(1,.5)	0.5165	0.4948	0.4982	0.5170	0.0914	0.0763	0.0867	0.0920
1273						(1,1)	0.5434	0.5218	0.5403	0.5484	0.0954	0.0860	0.0870	0.0936
1274						(1,2)	0.5302	0.5180	0.5538	0.5287	0.0545	0.0472	0.0722	0.0552
1275						(1,5)	0.4680	0.4596	0.4809	0.4689	0.0853	0.0687	0.0750	0.0871
1276						(1,10)	0.5028	0.4943	0.4957	0.5013	0.0876	0.0792	0.0920	0.0859
1277	4	3	2	(.1,1)	(.1,1)	(.1,1)	0.5511	0.4838	0.5218	0.5422	0.0659	0.0242	0.0762	0.0719
1278				(.2,1)	(.2,1)	(.2,1)	0.5642	0.4973	0.5277	0.5618	0.1004	0.0437	0.0951	0.0997
1279				(.5,1)	(.5,1)	(.5,1)	0.5150	0.4737	0.4927	0.5135	0.0914	0.0611	0.0796	0.0923
1280				(1,1)	(1,1)	(1,1)	0.4465	0.4375	0.4441	0.4426	0.1031	0.0932	0.0958	0.1045
1281				(2,1)	(2,1)	(2,1)	0.5265	0.5241	0.5293	0.5257	0.0892	0.0895	0.0816	0.0882
1282				(5,1)	(5,1)	(5,1)	0.4361	0.4358	0.4453	0.4360	0.0762	0.0775	0.0726	0.0771
1283				(10,1)	(10,1)	(10,1)	0.4681	0.4653	0.5025	0.4705	0.0765	0.0726	0.0703	0.0763
1284				(1,.1)	(1,.1)	(1,.1)	0.5423	0.5358	0.5333	0.5412	0.0962	0.0893	0.1071	0.0969
1285				(1,.2)	(1,.2)	(1,.2)	0.4344	0.4255	0.4684	0.4339	0.0980	0.0779	0.0997	0.0971
1286				(1,.5)	(1,.5)	(1,.5)	0.4512	0.4543	0.4448	0.4502	0.0849	0.0748	0.0707	0.0854
1287				(1,1)	(1,1)	(1,1)	0.4746	0.4711	0.4663	0.4746	0.0869	0.0795	0.0774	0.0860
1288				(1,2)	(1,2)	(1,2)	0.5281	0.5204	0.5166	0.5299	0.0821	0.0709	0.0896	0.0816

1289	(1,5)	(1,5)	(1,5)	0.4910	0.4873	0.4616	0.4941	0.0708	0.0611	0.0749	0.0720
1290	(1,10)	(1,10)	(1,10)	0.5538	0.5389	0.5524	0.5544	0.0785	0.0695	0.0803	0.0779
1291	(1,1)	(1,1)	(.1,1)	0.2360	0.2383	0.4447	0.2333	0.0339	0.0281	0.1201	0.0355
1292			(.2,1)	0.3113	0.3140	0.4770	0.3131	0.0520	0.0416	0.1199	0.0535
1293			(.5,1)	0.3734	0.3696	0.3474	0.3769	0.0585	0.0500	0.0731	0.0596
1294			(1,1)	0.4834	0.4745	0.5118	0.4801	0.0745	0.0656	0.0755	0.0740
1295			(2,1)	0.5292	0.5126	0.5168	0.5320	0.0743	0.0650	0.0750	0.0739
1296			(5,1)	0.5762	0.5626	0.5600	0.5789	0.0790	0.0734	0.0891	0.0788
1297			(10,1)	0.5688	0.5588	0.5097	0.5702	0.0836	0.0746	0.0787	0.0841
1298	(1,1)	(1,1)	(1,.1)	0.5697	0.5615	0.5773	0.5672	0.0683	0.0611	0.0757	0.0684
1299			(1,.2)	0.5543	0.5468	0.5128	0.5551	0.1034	0.0947	0.0835	0.1043
1300			(1,.5)	0.4883	0.4795	0.5264	0.4887	0.0639	0.0531	0.0784	0.0645
1301			(1,1)	0.4579	0.4597	0.5006	0.4577	0.0761	0.0683	0.0856	0.0761
1302			(1,2)	0.5148	0.5039	0.4998	0.5164	0.0874	0.0755	0.1056	0.0860
1303			(1,5)	0.4719	0.4673	0.4516	0.4723	0.0877	0.0774	0.0892	0.0874
1304			(1,10)	0.4850	0.4720	0.4599	0.4850	0.0705	0.0557	0.0700	0.0717

APPENDIX F

ANOVA APPROXIMATE TEST

NUMBER OF ITERATIONS: 50
SAMPLE DISTRIBUTION: N(0,1)

CASE	SAMPLE SIZES 1	2	3	β	AVERAGES R	F	K	A	VARIANCES R	F	K	A
1305	2	2	2	200	0.5107	0.4718	0.4696	0.4912	0.0692	0.0795	0.0725	0.0723
1306				300	0.5333	0.5063	0.5032	0.5207	0.0798	0.0771	0.0876	0.0822
1307				400	0.5000	0.4585	0.4672	0.4864	0.0668	0.0672	0.0744	0.0654
1308				500	0.4600	0.4281	0.4248	0.4356	0.0659	0.0660	0.0728	0.0681
1309				600	0.5640	0.5282	0.5045	0.5470	0.0641	0.0747	0.0703	0.0631
1310				700	0.5400	0.5021	0.5159	0.5208	0.0790	0.0817	0.0833	0.0801
1311				800	0.4880	0.4509	0.4504	0.4630	0.0841	0.0797	0.0840	0.0816
1312				900	0.5520	0.5043	0.4970	0.5356	0.0833	0.0893	0.0862	0.0841
1313				1000	0.5773	0.5424	0.5470	0.5568	0.0865	0.0886	0.0891	0.0867
1314				1100	0.5533	0.5183	0.5277	0.5326	0.0697	0.0801	0.0862	0.0679
1315				1200	0.5440	0.5072	0.5123	0.5243	0.0841	0.0870	0.0853	0.0868
1316				1300	0.4693	0.4423	0.4330	0.4528	0.0883	0.0928	0.0867	0.0881
1317				1400	0.5227	0.4695	0.4985	0.5043	0.1022	0.0977	0.1007	0.0993
1318				1500	0.5013	0.4663	0.4539	0.4804	0.0713	0.0738	0.0756	0.0727
1319				1600	0.5040	0.4732	0.4816	0.4853	0.0646	0.0307	0.0753	0.0648
1320				1700	0.5267	0.4986	0.4975	0.5044	0.0875	0.0866	0.0929	0.0862
1321				1800	0.5680	0.5281	0.5372	0.5477	0.0768	0.0787	0.0803	0.0750
1322				1900	0.5053	0.4649	0.4685	0.4833	0.0693	0.0731	0.0709	0.0702
1323				2000	0.5453	0.5051	0.5326	0.5263	0.0778	0.0713	0.0836	0.0747
1324	3	3	3	200	0.5176	0.5102	0.5375	0.5209	0.0771	0.0800	0.0735	0.0758
1325				300	0.4715	0.4711	0.4904	0.4678	0.0853	0.0864	0.0772	0.0859
1326				400	0.5566	0.5540	0.5402	0.5565	0.0745	0.0756	0.0729	0.0727
1327				500	0.5266	0.5270	0.5211	0.5215	0.0926	0.0961	0.0886	0.0939
1328				600	0.5278	0.5241	0.5263	0.5257	0.0947	0.0928	0.0846	0.0956
1329				700	0.4971	0.4974	0.5040	0.4940	0.0785	0.0770	0.0825	0.0785
1330				800	0.5461	0.5431	0.5487	0.5493	0.0786	0.0815	0.0726	0.0790
1331				900	0.5516	0.5582	0.5237	0.5468	0.0822	0.0838	0.0725	0.0813
1332				1000	0.4421	0.4369	0.4540	0.4414	0.0876	0.0822	0.0903	0.0877
1333				1100	0.4595	0.4627	0.4540	0.4575	0.0742	0.0751	0.0765	0.0730
1334				1200	0.5464	0.5464	0.5516	0.5468	0.0811	0.0808	0.0747	0.0810
1335				1300	0.5525	0.5527	0.5501	0.5492	0.0671	0.0671	0.0660	0.0666
1336				1400	0.4419	0.4374	0.4245	0.4407	0.0833	0.0853	0.0835	0.0819
1337				1500	0.5340	0.5383	0.5138	0.5300	0.0885	0.0915	0.0886	0.0880
1338				1600	0.4721	0.4727	0.4510	0.4732	0.0789	0.0818	0.0756	0.0790
1339				1700	0.4378	0.4366	0.4197	0.4360	0.0736	0.0735	0.0657	0.0734
1340				1800	0.5346	0.5264	0.5422	0.5345	0.0797	0.0778	0.0822	0.0790
1341				1900	0.5466	0.5451	0.5645	0.5469	0.0838	0.0856	0.0760	0.0836
1342				2000	0.4709	0.4672	0.4619	0.4702	0.0844	0.0859	0.0707	0.0841
1343	4	4	4	200	0.5439	0.5409	0.5429	0.5476	0.0789	0.0780	0.0832	0.0769
1344				300	0.4470	0.4480	0.4343	0.4488	0.1017	0.1039	0.0841	0.1016
1345				400	0.5044	0.5028	0.4994	0.5067	0.0754	0.0733	0.0671	0.0733
1346				500	0.5313	0.5298	0.5205	0.5250	0.0804	0.0809	0.0790	0.0813
1347				600	0.5617	0.5631	0.5639	0.5613	0.0772	0.0773	0.0752	0.0787
1348				700	0.5188	0.5209	0.5215	0.5203	0.0821	0.0824	0.0779	0.0816
1349				800	0.4660	0.4688	0.4478	0.4668	0.0859	0.0834	0.0802	0.0861
1350				900	0.5048	0.5041	0.4986	0.5042	0.0825	0.0831	0.0818	0.0828
1351				1000	0.5151	0.5124	0.5089	0.5172	0.0846	0.0833	0.0728	0.0852
1352				1100	0.5222	0.5222	0.5334	0.5204	0.0787	0.0778	0.0744	0.0790
1353				1200	0.4844	0.4831	0.4897	0.4840	0.0886	0.0882	0.0766	0.0894
1354				1300	0.5636	0.5579	0.5232	0.5632	0.0850	0.0847	0.0744	0.0845
1355				1400	0.4731	0.4745	0.4735	0.4734	0.0733	0.0740	0.0677	0.0738
1356				1500	0.5429	0.5424	0.5489	0.5442	0.0830	0.0820	0.0845	0.0828

1357				1600	0.4354	0.4373	0.4546	0.4381	0.0969	0.0956	0.0997	0.0970
1358				1700	0.5350	0.5335	0.5323	0.5350	0.0681	0.0690	0.0755	0.0681
1359				1800	0.4658	0.4645	0.4730	0.4658	0.0714	0.0708	0.0708	0.0708
1360				1900	0.5296	0.5280	0.5384	0.5295	0.0819	0.0817	0.0803	0.0821
1361				2000	0.4737	0.4752	0.4702	0.4747	0.0961	0.0963	0.0801	0.0956
1362	4	4	3	200	0.5788	0.5782	0.5555	0.5793	0.0790	0.0781	0.0709	0.0790
1363				300	0.4439	0.4444	0.4249	0.4471	0.1054	0.1061	0.0944	0.1063
1364				400	0.4743	0.4735	0.4688	0.4743	0.0767	0.0761	0.0705	0.0767
1365				500	0.4935	0.4898	0.4952	0.4944	0.0846	0.0859	0.0838	0.0814
1366				600	0.5383	0.5385	0.5406	0.5404	0.0788	0.0802	0.0840	0.0794
1367				700	0.5192	0.5238	0.5354	0.5201	0.0844	0.0847	0.0755	0.0839
1368				800	0.4828	0.4893	0.4800	0.4835	0.0883	0.0867	0.0883	0.0885
1369				900	0.5029	0.5005	0.4972	0.5023	0.0839	0.0847	0.0836	0.0826
1370				1000	0.5334	0.5314	0.5477	0.5312	0.0801	0.0771	0.0766	0.0805
1371				1100	0.5365	0.5316	0.5403	0.5351	0.0798	0.0790	0.0737	0.0804
1372				1200	0.4634	0.4637	0.4746	0.4633	0.0730	0.0737	0.0658	0.0716
1373				1300	0.5694	0.5667	0.5263	0.5683	0.0819	0.0815	0.0754	0.0819
1374				1400	0.4914	0.4932	0.4771	0.4928	0.0761	0.0782	0.0743	0.0755
1375				1500	0.5443	0.5447	0.5383	0.5466	0.0743	0.0736	0.0724	0.0748
1376				1600	0.4690	0.4666	0.4763	0.4700	0.0904	0.0896	0.0925	0.0914
1377				1700	0.5599	0.5582	0.5611	0.5603	0.0764	0.0757	0.0813	0.0763
1378				1800	0.5076	0.5044	0.5014	0.5084	0.0822	0.0821	0.0734	0.0812
1379				1900	0.5152	0.5156	0.5161	0.5129	0.0800	0.0797	0.0813	0.0804
1380				2000	0.4785	0.4757	0.4690	0.4795	0.1028	0.1017	0.0910	0.1013
1381	4	4	2	200	0.4629	0.4635	0.4594	0.4678	0.0919	0.0920	0.0788	0.0924
1382				300	0.5153	0.5188	0.4840	0.5223	0.0825	0.0862	0.0677	0.0826
1383				400	0.5244	0.5240	0.5083	0.5264	0.0748	0.0769	0.0755	0.0734
1384				500	0.5293	0.5241	0.5178	0.5306	0.0848	0.0840	0.0858	0.0848
1385				600	0.5642	0.5626	0.5504	0.5651	0.0710	0.0722	0.0723	0.0701
1386				700	0.5329	0.5316	0.5573	0.5310	0.0827	0.0841	0.0823	0.0828
1387				800	0.4831	0.4864	0.5013	0.4830	0.0880	0.0874	0.0905	0.0869
1388				900	0.4740	0.4723	0.4849	0.4709	0.0841	0.0861	0.0946	0.0844
1389				1000	0.4449	0.4458	0.4751	0.4447	0.0763	0.0762	0.0847	0.0767
1390				1100	0.5097	0.5076	0.5109	0.5111	0.0687	0.0692	0.0689	0.0677
1391				1200	0.5007	0.4970	0.4770	0.5028	0.0796	0.0771	0.0801	0.0808
1392				1300	0.5550	0.5537	0.5576	0.5552	0.0772	0.0764	0.0768	0.0777
1393				1400	0.4457	0.4440	0.4269	0.4455	0.0925	0.0926	0.0836	0.0934
1394				1500	0.5050	0.5051	0.4869	0.5053	0.0670	0.0679	0.0644	0.0656
1395				1600	0.5003	0.4949	0.5219	0.4991	0.0736	0.0713	0.0733	0.0735
1396				1700	0.4807	0.4798	0.4907	0.4802	0.0972	0.0973	0.0960	0.0983
1397				1800	0.5749	0.5761	0.5744	0.5763	0.0921	0.0897	0.0873	0.0918
1398				1900	0.4995	0.5016	0.5104	0.4990	0.0782	0.0801	0.0875	0.0783
1399				2000	0.5142	0.5168	0.5165	0.5137	0.0895	0.0918	0.0849	0.0896
1400	4	3	3	200	0.5566	0.5599	0.5380	0.5572	0.0893	0.0908	0.0701	0.0894
1401				300	0.4677	0.4676	0.4570	0.4711	0.0982	0.0993	0.0952	0.0991
1402				400	0.4536	0.4544	0.4619	0.4560	0.0651	0.0676	0.0677	0.0668
1403				500	0.5327	0.5331	0.5408	0.5327	0.0878	0.0887	0.0888	0.0865
1404				600	0.5411	0.5400	0.5443	0.5452	0.0726	0.0746	0.0768	0.0733
1405				700	0.5371	0.5410	0.5493	0.5371	0.0839	0.0843	0.0800	0.0859
1406				800	0.4910	0.4989	0.4680	0.4911	0.0859	0.0825	0.0786	0.0849
1407				900	0.5220	0.5203	0.5166	0.5202	0.0980	0.0992	0.0942	0.0984
1408				1000	0.5126	0.5080	0.5152	0.5117	0.0856	0.0813	0.0859	0.0862
1409				1100	0.5532	0.5422	0.5716	0.5527	0.0715	0.0685	0.0706	0.0710
1410				1200	0.4565	0.4555	0.4773	0.4610	0.0757	0.0757	0.0629	0.0759
1411				1300	0.5337	0.5341	0.5197	0.5337	0.0792	0.0773	0.0750	0.0797
1412				1400	0.5039	0.5066	0.5015	0.5030	0.0839	0.0842	0.0813	0.0822
1413				1500	0.5499	0.5493	0.5359	0.5494	0.0764	0.0782	0.0671	0.0756
1414				1600	0.5079	0.5069	0.5007	0.5066	0.0921	0.0893	0.0852	0.0911
1415				1700	0.5544	0.5524	0.5529	0.5557	0.0731	0.0747	0.0791	0.0737
1416				1800	0.5235	0.5231	0.5327	0.5261	0.0808	0.0829	0.0674	0.0817
1417				1900	0.5328	0.5304	0.5181	0.5350	0.0820	0.0811	0.0772	0.0821
1418				2000	0.4305	0.4288	0.4390	0.4319	0.0845	0.0847	0.0851	0.0841
1419	4	3	2	200	0.5407	0.5479	0.5273	0.5382	0.0853	0.0851	0.0813	0.0887
1420				300	0.5112	0.5106	0.5328	0.5144	0.0720	0.0727	0.0735	0.0714
1421				400	0.5167	0.5169	0.4893	0.5186	0.0876	0.0859	0.0838	0.0858

1422	500	0.5202	0.5197	0.5251	0.5231	0.0857	0.0847	0.0879	0.0859
1423	600	0.5395	0.5443	0.5075	0.5411	0.0855	0.0874	0.0764	0.0840
1424	700	0.5033	0.5094	0.4970	0.5059	0.0750	0.0732	0.0869	0.0749
1425	800	0.4392	0.4347	0.4353	0.4389	0.0961	0.0989	0.0879	0.0958
1426	900	0.4753	0.4766	0.4634	0.4741	0.0764	0.0784	0.0731	0.0758
1427	1000	0.4477	0.4457	0.4631	0.4493	0.0866	0.0865	0.0888	0.0854
1428	1100	0.5274	0.5230	0.5300	0.5281	0.0724	0.0711	0.0665	0.0731
1429	1200	0.5902	0.5897	0.5907	0.5909	0.1023	0.1032	0.1053	0.1019
1430	1300	0.5174	0.5217	0.5170	0.5175	0.0878	0.0884	0.0853	0.0887
1431	1400	0.4495	0.4462	0.4421	0.4506	0.0864	0.0858	0.0881	0.0861
1432	1500	0.5223	0.5195	0.5062	0.5217	0.0916	0.0905	0.0809	0.0933
1433	1600	0.4932	0.4891	0.4918	0.4908	0.1116	0.1116	0.1084	0.1110
1434	1700	0.5411	0.5431	0.5276	0.5410	0.0926	0.0933	0.0898	0.0919
1435	1800	0.4385	0.4387	0.4465	0.4387	0.0875	0.0858	0.0878	0.0875
1436	1900	0.5099	0.5100	0.4984	0.5099	0.0911	0.0915	0.0932	0.0914
1437	2000	0.5595	0.5572	0.5724	0.5574	0.0885	0.0895	0.0921	0.0881

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